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DIRECT AND INDIRECT TRICKLE-DOWN EFFECTS ON SPORT PARTICIPATION LEGACY THROUGH NON-MEGA-SPORT EVENTS

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Mega-sport events are frequently criticized for excessive commercialization and sustainability concerns. By contrast, non-mega sport events (NMSEs) offer more cost-effective, locally suitable, and socially sustainable benefits. To understand the lasting influence of NMSEs on local sport participation, we constructed a research model based on systems theory and integrated with youth and grassroots sport development legacies into a trickle-down effect model to examine their mediating roles. In the context of the National Sports Festival, an annual Japanese sport competition, we surveyed sport and government officials ($N = 158$) on the legacies of youth and grassroots sport development, sport infrastructure, sport inspiration, and sport participation. The findings indicate both sport infrastructure and sport inspiration legacies have positive indirect effects on sport participation legacy through grassroots sport development legacy. This study adds new insights on the importance of NMSEs, identifying grassroots sport development legacy as a mediating mechanism that facilitates sport participation.

Key words: Sport development; Sport legacy; Sport participation; Systems theory

Introduction

Non-mega-sport events (NMSEs) are sport events that are “smaller in size, scale, scope, and reach” (Taks, 2013, p. 124) than mega-sport events (MSEs) such as the Olympic Games and Fédération

Internationale de Football Association (FIFA) World Cup. NMSEs include national, regional, and local sport competitions (e.g., national championships and community organized marathons) and other small-scale sport events, such as junior championships (Gratton & Taylor, 2000; Taks et al., 2014).

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While both NMSEs and MSEs have attracted interest in sport management, MSEs are increasingly controversial due to their excessive commercialization, lack of local involvement, and use of taxpayer money to fund large-scale infrastructure projects (Esparza & Price, 2015; Kim et al., 2015). For instance, the cost for the 2020 Tokyo Olympic and Paralympic Games reached a record US\$15.4 billion, more than double the initial forecast of US\$7.4 billion, creating a long-lasting financial burden on Japanese residents (Cervantes, 2021). By contrast, NMSEs are more cost-effective, locally suitable, and socially sustainable than MSEs (Duan et al., 2021; Taks, 2013). NMSEs can leverage existing facilities and better engage residents in the management and delivery of events, leading to more sustainable and cost-effective development (Schulenkorf et al., 2022). Given the importance of NMSEs, researchers have begun to examine the legacies of these events in relation to the community benefits they provide, such as the well-being of residents (Djaballah et al., 2015; Duan et al., 2021). However, three key limitations arise from the current literature.

First, evidence regarding sport-related legacies from hosting NMSEs is scarce. Broadly, legacy is defined as a gift or something passed down from an ancestor or predecessor (Agha et al., 2012). Sport legacy is a dimension of sport event legacy (Agha et al., 2012; Leopkey & Parent, 2012), with the latter referring to “all planned and unplanned, positive and negative, tangible and intangible structures created for and by a sport event that remain longer than the event itself” (Preuss, 2007, p. 211). In MSEs, sport legacy has been conceptualized as sustainable sport infrastructure (Cornelissen et al., 2011), lasting sport participation among the general population (Reis et al., 2017), sport capacity building (Girginov & Hills, 2008), or a combination of them all (Veal et al., 2012). However, in NMSE research, perspectives of sport legacy are limited and obscured because the term has been conceptualized ranging from sport inspiration (i.e., the sense of inspiration gained from NMSEs; Ramchandani et al., 2015) to sport participation (i.e., long-term participation in sport after NMSEs; Zawadzki, 2020). In this study, we present a more comprehensive view of sport legacy by examining the development of youth and grassroots sport legacies. Youth and grassroots sport development

legacies are increasingly important as they encourage competitive and recreational sport development opportunities. NMSEs can promote lasting sport participation opportunities at these levels of competition (Misener et al., 2015; Taks et al., 2014).

Second, it is unclear how different types of sport legacy are related to each other. The trickle-down effect is the inspirational impact of witnessing elite-level athletes. This effect embodies a top-down process where the visibility of prominent athletes and sport events inspires spectators and residents, compelling them to initiate or enhance their sport participation (Hindson et al., 1994). Our research extends NMSE research by examining the mediating roles of sport development-related factors, namely youth and grassroots sport development legacies, in the relationship between sport inspiration and sport participation legacies. For instance, grassroots sport clubs and local sport events may develop from hosting NMSEs, with youth and grassroots sport development legacies potentially mediating the relationship between hosting NMSEs and sport participation. In particular, hosting NMSEs may encourage sport-related activities in school-based programs (e.g., school sport clubs and physical education classes), increasing sport participation among children (Misener et al., 2015). By focusing on sport development-related factors, we address limitations of previous trickle-down effect research that suggests: (1) MSEs mainly foster spectator sport consumption (e.g., live and television spectating) rather than encouraging active sport participation (Toohey, 2008) and (2) sport participation depends on sport development programs to facilitate opportunities for sport and recreational activities among residents (Girginov & Hills, 2008; Taks et al., 2014).

Third, there is a gap in previous NMSE studies regarding different types of stakeholders. Researchers have primarily focused on the perceptions of event attendees (Inoue & Havard, 2014; Ramchandani et al., 2015) and residents (Duan et al., 2021; Zawadzki, 2020), neglecting the views of other stakeholders. For instance, NMSEs require coordination among local government officials, sport managers, coaches, and athletes to ensure the successful development and delivery of the events (Djaballah et al., 2015; Misener et al., 2015; Schulenkorf et al., 2022). NMSEs are largely

characterized by local sport management systems in which regional and municipal governments and local sport organizations play crucial roles in planning, implementing, and sustaining events (Djaballah et al., 2015; Taks, 2013). Therefore, the sport legacy of NMSEs cannot be sufficiently understood in isolation from local sport officials. Accordingly, our research incorporates perspectives of both sport and government officials by examining sport legacy at the regional (or prefectural) level, rather than focusing on the resident/individual level. This methodological approach allows us to gather insights from diverse sport and host city officials, addressing the limitation of previous research that has focused on a limited number of sport events in specific locations at the individual level (e.g., Duan et al., 2021; Zawadzki, 2020).

Considering the limitations of previous research, the purpose of this study is threefold. First, we offer a typology of sport legacy in the context of NMSEs. Second, guided by systems theory (Von Bertalanffy, 1972), we develop a theoretical model that explains the structural relationships between the different types of sport legacy, including mediating mechanisms underlying the trickle-down effect. Systems theory (van den Bekerom et al., 2017; Von Bertalanffy, 1972) maintains that sport organizations can obtain desired outputs (e.g., increased sport participation) by transforming external inputs (e.g., sport inspiration) into organizational practices (e.g., community sport clubs) in the throughput process (e.g., youth and grassroots sport development). Third, we test the proposed model using a cross-sectional survey of 158 officials from municipal governments ($n = 78$) and prefectural (or regional) sport organizations ($n = 80$) in the context of the National Sports Festival (NSF), an annual Japanese elite amateur sport competition. To achieve these purposes, we address the following research question (RQ):

RQ: What are the roles of youth and grassroots sport development legacies in promoting lasting sport participation through the hosting of NMSEs?

To answer this RQ, we focus on sport legacy over other legacy types (e.g., economic, social, urban, and environmental) to provide new insights

into the trickle-down effect phenomenon, which is a prominent, sport-specific pathway to increasing sport participation and has received attention from policymakers and sport event organizers (Bauman et al., 2021; Bazzanella et al., 2019). In the following section, we first conceptualize sport legacy within the trickle-down effect phenomenon.

Literature Review and Conceptual Framework

Sport Event Legacy

Sport event legacy is a key concept for sport event bidding and organizing committees. It allows them to evaluate how sport events contribute to both sport and community development through tangible (e.g., infrastructure) and intangible benefits (e.g., knowledge, skills, and capabilities) in the host community after an event takes place (Preuss, 2007, 2019). To explain enduring sport event outcomes, researchers have identified sport, economic, social, urban, and environmental legacies as major dimensions of sport event legacy (Cornelissen et al., 2011; Grix et al., 2017; Leopkey & Parent, 2012; Veal et al., 2012). Of them, we emphasize sport-related legacies to gain deeper insights into the trickle-down effect from hosting NMSEs. An analysis of sport-related legacies is important because it allows us to (1) develop a more comprehensive typology of sport legacy and (2) provide quantitative evidence for the drivers of local sport participation, which supports and extends previous qualitative NMSE research (Misener et al., 2015; Taks et al., 2014).

Defining Sport Legacy and Developing a Typology

Sport Legacy. Sport legacy encompasses a set of sustainable sport-related outcomes, including sport participation, sport infrastructure, elite sport development, sport symbols and memory, sport education, and financial/administrative support (Leopkey & Parent, 2012; Veal et al., 2012). This conceptualization suggests that sport legacy refers to sport-specific event outcomes, whereas sport event legacy includes both sport-related and non-sport-related (e.g., economic, social, and urban) legacies. In this study, we define sport legacy as a set of enduring outcomes that stem from hosting a

sporting event that may help develop sport participation in local communities. Our conceptualization excludes direct financial support from governments or other agencies because this type of legacy has not been empirically substantiated, as Thomson et al. (2019) found that “financial/administrative support had no coverage” (p. 303) in their systematic review of the literature on sport event legacy.

To identify specific dimensions of sport legacy at NMSEs, we draw on the literature involving the trickle-down effect (e.g., Wicker & Sotiriadou, 2013). Specifically, we develop a typology that classifies sport-specific legacies into five dimensions: (1) sport participation, (2) sport infrastructure, (3) sport inspiration, (4) youth sport development, and (5) grassroots sport development legacies (see Fig. 1). We first identify sport participation, sport infrastructure, and sport inspiration legacies in our conceptualization because these dimensions have been widely examined in previous research on the trickle-down effect phenomenon (Frawley & Cush, 2011; Kumar et al., 2018; Ramchandani & Coleman, 2012; Taks et al., 2014). We subsequently include youth sport development and grassroots sport development legacies in our typology because creating appealing sport participation opportunities at these levels is crucial not only for maintaining engagement among

children and adults but also for enhancing overall activity levels (Allender et al., 2006).

In the trickle-down effect phenomenon, sport infrastructure and sport inspiration influence sport participation both directly and indirectly through sport development (Djaballah et al., 2015; Girginov & Hills, 2008). When young adults and adolescents observe elite athletes during NMSEs, they may aspire to emulate them and start participating in the sport (direct route). If hosting NMSEs leads to the establishment of community and recreational sport clubs, these clubs can provide sport participation opportunities for both children and adults (indirect routes). By differentiating the trickle-down effect into direct and indirect pathways, we elucidate the direct route and then delve into the rationale for the indirect route.

The Direct Trickle-Down Effect. The trickle-down effect is a top-down process by which elite sport athletes and events lead to increased sport participation (Hindson et al., 1994). The trickle-down effect operates in two ways: (1) increasing the attractiveness and accessibility of sport facilities, and (2) inspiring people to participate in sport or physical activities through the achievements of

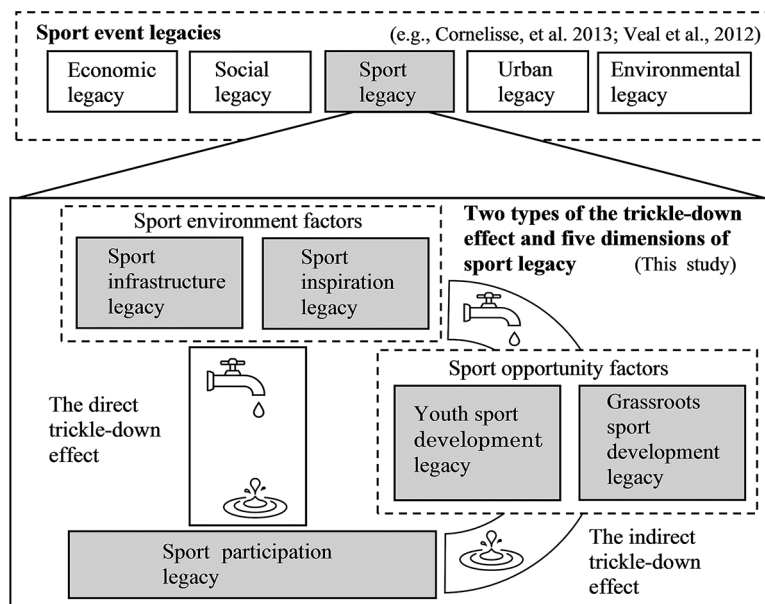


Figure 1. A typology of sport legacy.

athletes (Taks et al., 2014; Wicker & Sotiriadou, 2013). These findings highlight the prominence of sport participation and tangible and intangible sport environment factors (i.e., sport infrastructure and sport inspiration) and result in the identification of three sport legacies in the trickle-down effect phenomenon: *sport participation*, *sport infrastructure*, and *sport inspiration legacies*.

These three legacies can be viewed as direct trickle-down effects. The development of sport infrastructure (Taks et al., 2014) and inspiration from elite sport performance (Wicker & Sotiriadou, 2013) directly trickle down to promote sport participation in host communities (see Fig. 1). Sport participation legacy is defined as a legacy of sporting events that increases and sustains mass participation in sport (e.g., recreational, school, and community sport activities) among local residents (Veal et al., 2012). Sport infrastructure legacy refers to the creation of sport facilities (e.g., stadiums, arenas, swimming pools, and sport fields) that can be used by local residents after hosting sporting events (Cornelissen et al., 2011; Veal et al., 2012). Sport inspiration legacy encompasses the public memory and meaning of elite athlete performance and achievement (Mair et al., 2023; Veal et al., 2012), reflecting the extent to which sporting events and athletes act as role models and inspiration for long-term sport participation.

The Indirect Trickle-Down Effect. The trickle-down effect may be observable primarily among young adults and active sport participants and thereby may not boost sport participation for adults (Ramchandani et al., 2015; Taks et al., 2014). On the other hand, the trickle-down effect can be activated *indirectly* through sport development (Agha et al., 2012; Djaballah et al., 2015; see Fig. 1). Sport development, often depicted by a vertically structured pyramid model (Green, 2005), is the process of facilitating opportunities for sport participation from grassroots to elite development (Green, 2005; Sotiriadou et al., 2008). One perspective on the indirect mechanism is that sport development builds “bridges between elite sport performance and sport as mass participation” (Taks et al., 2014, p. 215). Our typology includes two types of sport development legacy. The first is youth sport

development legacy, which focuses on building capacity to create and sustain sport opportunities for young people (Griffiths & Armour, 2013; Potwarka & Leatherdale, 2016). The second is grassroots sport development legacy, which seeks to establish recreational sport opportunities at the community level (Girginov & Hills, 2008; Gratton & Preuss, 2008). According to previous research, the trickle-down effect is weak or only seen among certain populations (e.g., young adults and active sport participants) and thereby does not boost sport participation among adults in the context of MSEs (Weed et al., 2015; Wicker & Sotiriadou, 2013). Therefore, we focus on NMSEs, attempting to extend prior work via the joint investigation of youth and grassroots sport development legacies and the trickle-down effect. Examining youth and grassroots sport development legacies and their effects on sport participation legacy in the NMSE context goes beyond past studies that were unable to establish evidence of the trickle-down effect among adults after MSEs were held (Weed et al., 2015; Wicker & Sotiriadou, 2013).

Youth sport development legacy encourages and provides opportunities for young adults to further develop their sport participation. We define youth sport development legacy as a set of systems that facilitate opportunities for young people to participate in NMSE-related sport activities in a vertical structure such as a school or community sport club. Prior studies have demonstrated that youth sport development legacy can be achieved by integrating NMSE-related activities into school-based programs such as school sport clubs and physical education classes (Aizawa et al., 2023; Misener et al., 2015). Another pathway to youth sport development legacy is through school–sport partnerships, which refer to a coordinated system between schools and local sport clubs (Griffiths & Armour, 2013). Establishing school–sport partnerships allows local sport clubs to reach children at schools, creating additional opportunities for young athletes to participate in local sport club activities.

Grassroots sport development legacy is another intervening variable in the indirect trickle-down effect. Unlike youth sport development, which tends to be competitive and adolescent focused, grassroots sport development is characterized by less competitive and more informal forms of

recreational sport activities for the health and well-being of local residents (Rowe et al., 2013). We define grassroots sport development legacy as a set of programs that are developed in coordination with NMSEs and are implemented to help residents participate in fitness and recreational sport activities for health and well-being purposes.

Overall, while youth and grassroots sport development legacies may occur from MSEs, NMSEs play a major role by providing higher levels of local autonomy and resident involvement (Schulenkorf et al., 2022; Taks, 2013). Next, we present our research hypotheses regarding the five dimensions of sport legacy.

Hypothesis Development

Our theoretical model is shown in Figure 2. The model posits that (1) sport infrastructure legacy leads to sport inspiration legacy and (2) sport infrastructure and sport inspiration legacies have direct and indirect effects on sport participation legacy through two mediating variables: youth and grassroots sport development legacies. The hypothesized direct and indirect effects represent the direct and indirect trickle-down effects based on the literature

on sport event legacy (Grix et al., 2017; Preuss, 2019) and systems theory (Von Bertalanffy, 1972).

Sport Infrastructure and Sport Inspiration Legacies. Although NMSEs usually do not involve the construction of large-scale infrastructure projects, event organizers still need to upgrade existing sport facilities to meet the requirements of NMSEs, as well as the needs of residents and communities (Misener et al., 2015; Taks et al., 2014). For instance, sport inspiration legacy may develop from the upgraded NMSE facilities that have new and appealing features (Taks et al., 2014) and create an attractive social atmosphere (Kumar et al., 2018). As residents have better experiences at new or enhanced facilities, they are more likely to use these facilities (Taks et al., 2014). Social bonds at these facilities are strengthened as residents train longer, interact more, and share interests (Kumar et al., 2018). In addition, the symbolic elements of sport facilities can drive local media attention, lead to increased awareness, and result in higher levels of sport inspiration in local communities (Taks, 2013). Simply put, new or renovated sport facilities act as a catalyst of social interaction and encourage

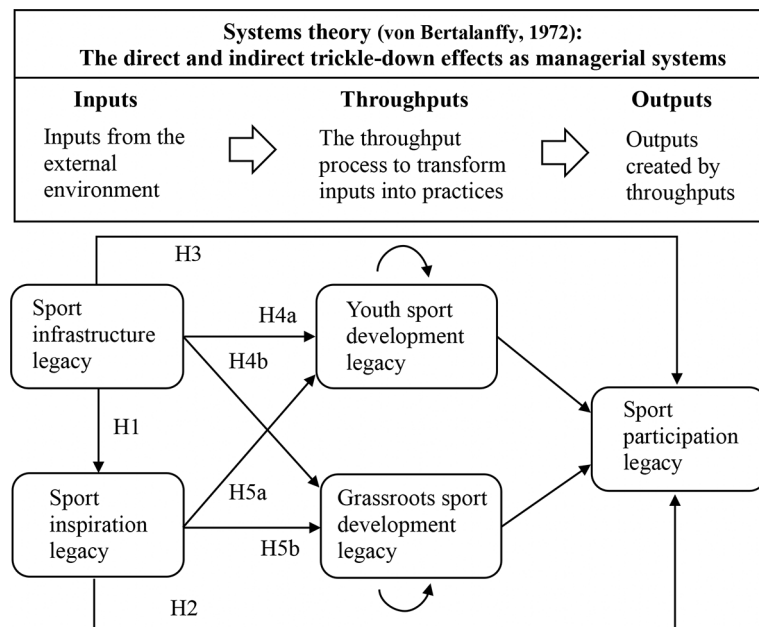


Figure 2. Theoretical framework and hypotheses.

sport inspiration. Therefore, we propose the following hypothesis:

H1: Sport infrastructure legacy positively influences sport inspiration legacy.

Direct Effect Hypotheses. In the context of NMSEs, scholars suggest that sport inspiration legacy fosters sport participation legacy in host communities. For instance, NMSEs can be closely tied to local educational programs, serving as promotional tools for reaching schools and providing greater sport inspiration among children and adolescents (Misener et al., 2015). In this study, we expect NMSEs to inspire not only children and adolescents, but also their coaches, teachers, and families because of the local media coverage and public interest in NMSEs (Taks, 2013). Thus, we hypothesize that:

H2: Sport inspiration legacy positively influences sport participation legacy.

New sport facilities built for NMSEs have been found to directly trickle down and influence sustainable sport participation legacy, specifically among those already involved in sport (Taks et al., 2014; Weed et al., 2015), including young children and adolescents (Ramchandani et al., 2015). Moreover, public sport facilities are fundamental to enhance sport participation among the general population including a wide range of age groups because these facilities provide opportunities for the general public to engage in recreational sport activities, promoting positive changes in the health and well-being of residents (Kumar et al., 2018). Overall, residents are likely to be motivated to participate in sport and physical activities due to the increased accessibility of new or upgraded public sport facilities built or renovated for NMSEs. Therefore, we propose the following hypothesis:

H3: Sport infrastructure legacy positively influences sport participation legacy.

Indirect Effect Hypotheses. We apply systems theory (von Bertalanffy, 1972) as a theoretical lens through which to examine the indirect trickle-down

effect mechanism. This theory explains how organizations take inputs (e.g., sport infrastructure and sport inspiration) from the external environment (e.g., host cities and the sport industry) and transform those inputs into organizational practices (e.g., community sport clubs, school sport clubs, and local sport events) via the throughput process to create desired outputs (e.g., increased sport participation) for stakeholders (van den Bekerom et al., 2017; see Fig. 2). This theory has been used to explain how inputs in relation to elite sport policies (e.g., sport funding) are linked to outputs (e.g., number of medals won by elite athletes) via the mediation of throughputs (e.g., talent development systems; De Bosscher et al., 2011).

We hypothesize that sport infrastructure legacy has an indirect effect on sport participation legacy through youth and grassroots sport development legacies. NMSE scholarship suggests that a new or upgraded sport facility (1) creates opportunities for schools to use the facility, (2) contributes to the development of both school and community sport clubs, and (3) provides opportunities for local sport programs to hire additional coaches and instructors (Millar & Doherty, 2018; Taks et al., 2014). From a systems theory perspective, youth and grassroots sport development legacies act as throughputs to convert new or renovated sport facilities into sport and physical activity programs for young and older adults. Accordingly, we anticipate the transformation of sport infrastructure into sport development programs is likely to occur from hosting NMSEs. In the context of NMSEs, sport facilities tend to be designed and operated “with the explicit intention to meet the needs of local residents, thereby assuring long-term use by the community that is central for sustainable sport participation” (Taks et al., 2014, p. 217). When sport facilities meet the demand for local communities, interorganizational partnerships between local governments, community sport clubs, and schools arise and promote the transformation of the facilities into sport programs and eventually enhance mass sport participation (Zhou et al., 2021). Thus, we hypothesize the following:

H4: Sport infrastructure legacy has an indirect effect on sport participation legacy through (a) youth sport development legacy and (b) grassroots sport development legacy.

In addition, we propose that sport participation legacy is developed when residents' feelings of sport inspiration are aligned with community capacity building that involves creating the social partnerships, knowledge, and skills necessary for sport participation (Girginov & Hills, 2008). One way to enhance community capacity building is to develop opportunities to participate in community sport programs because local sport clubs and centers are the most important lever to transform sport inspiration into sport participation among residents (Ramchandani & Coleman, 2012). These explanations are consistent with systems theory that suggests sport inspiration legacy serves as an environmental input that can be transformed into sport and recreation opportunities (throughputs) to foster sport participation legacy (outputs). Including the youth and grassroots dimensions of sport development legacy, we hypothesize the indirect pathway from sport inspiration legacy to sport participation legacy as follows:

H5: Sport inspiration legacy has an indirect effect on sport participation legacy through (a) youth sport development legacy and (b) grassroots sport development legacy.

Methodology

Research Context

This research was conducted in the context of the NSF in Japan. The NSF was founded in 1946 and is an annual Olympic-style multisport festival organized by the Japan Sport Association, a national governing body of sport in Japan. Each year, the event is hosted by one of Japan's 47 prefectures in which different cities in the prefecture serve as the primary host for different sports. The NSF is one of the major national championship competitions designed to include elite youth competitors. The NSF offers opportunities for elite youth (13–18 years old) and adults (19 years old and above) athletes to compete in 37 sports. According to Gratton and Taylor's (2000) sport event classification, the NSF represents a Type D event, which refers to "major competitor events generating limited economic activity and part of an annual cycle of sports events (i.e., national championship and

competition)" (p. 26). This definition meets the criteria of NMSEs. The use of Type D events (e.g., national championships) as a study setting has been found in previous NMSE studies (Djaballah et al., 2015; Misener et al., 2015; Ramchandani et al., 2015). Therefore, the findings of this study are deemed applicable to other Type D event settings.

The NSF provides a salient research context, as it attracts a variety of athletes, coaches, officials, and spectators. For instance, the 2019 event attracted more than 650,000 people including approximately 70,000 athletes and coaches, 100,000 officials, and 480,000 spectators. Furthermore, the NSF involves the construction and renovation of sport facilities and the development of community sport clubs and youth sport programs to promote sustainable sport participation in host cities (Yoshida, 2017). Therefore, the NSF provides a valuable opportunity to measure key variables, including sport infrastructure, sport development, and sport participation legacies.

Data Collection

In 2014, we conducted a cross-sectional survey of local sport and government officials who helped organize, host, and manage past NSF competitions. Although our data collection was carried out 10 years ago, this is unlikely to influence our results because (1) the trickle-down effect is a phenomenon that transcends time as it has been discussed over the past three decades (Hindson et al., 1994; Hogan & Norton, 2000; Weed et al., 2015) and (2) we ensured the accuracy of our retrospective questionnaires based on the following two-stage survey design.

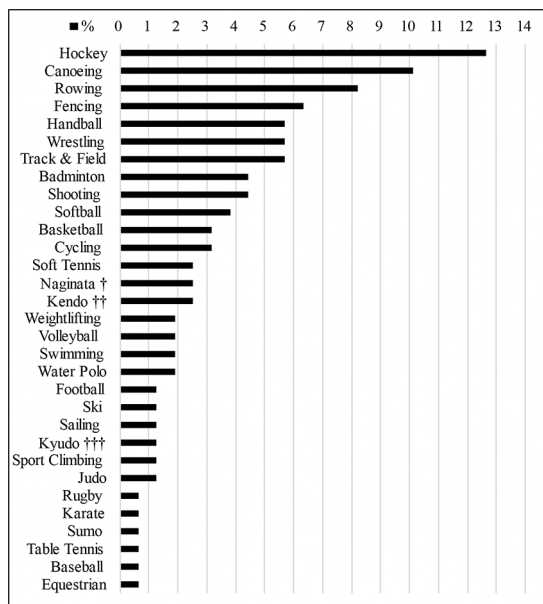
Working directly with the NSF, we had access to the contact information of officials from all prior NSF events. We collected data from these officials using two separate survey questionnaires. First, survey questionnaires were sent to sport officials of prefectural governments and executive directors of all prefectural sport associations, except for the prefecture that sponsored this study. Of the 46 prefectural governments and 46 prefectural sport associations, 75 questionnaires were returned for a response rate of 81.5%. Respondents provided the names of the cities and sports that were considered as successful cases for promoting sport inspiration,

sport infrastructure, youth sport development, grassroots sport development, and sport participation through the hosting of NMSEs. At this stage, 151 cities and 148 sports across Japan were identified based on the survey responses.

Next, questionnaires were mailed to the municipal governments and various sport governing bodies that were identified in the first survey. After completing the questionnaire, respondents returned it by mail using a stamped, self-addressed return envelope. In total, our sample included 87 out of 151 municipal governments and 83 out of 148 prefectural sport governing bodies (148 individual branches of NSF sports), yielding a response rate of 56.9%. Of them, 12 respondents were excluded because they were not involved with the NSF. Overall, we collected usable data from 78 municipal governments and 80 prefectural sport governing bodies ($N = 158$).

The sample size was relatively small. From a methodological standpoint, the number of usable responses was deemed appropriate for factor analysis, our main analytical method, because the item-to-response ratio (i.e., the ratio of scale items to the number of respondents) was approximately 1:8 and exceeded the minimum item-to-response ratio of 1:4 (Hinkin, 1995). Moreover, in the sport management literature, it is uncommon to collect data capturing practitioners' quantitative assessments of sport legacy. Our nationwide approach to data collection allowed us to cover different geographical locations of respondents and gather data on a variety of sports represented (see Figs. 3 and 4). Hence, our data from sport and government officials across Japan help us make a unique contribution to the literature on sport event legacy that has been examined primarily by qualitative research methods and case studies (Thomson et al., 2019).

The key strengths of our data include (1) measuring perceptions of prominent sport and government officials and (2) collecting data across a variety of NSF sports across Japan. The respondents' job positions included chief official (41.8%), executive director (31.0%), chairperson (13.3%), administrative staff (5.7%), assistant manager (2.5%), vice-president (1.9%), and president (0.6%). There was considerable variability in sport types and geographic areas. The most frequently mentioned sports were hockey (12.7%), canoeing (10.1%), rowing (8.2%), fencing (6.3%), handball (5.7%),



† Naginata is a traditional Japanese martial art using a long-handled sword.
 †† Kendo is a traditional Japanese style of fencing.
 ††† Kyudo is a traditional Japanese style of archery.

Figure 3. Percentage of respondents by NSF sports ($N = 158$).

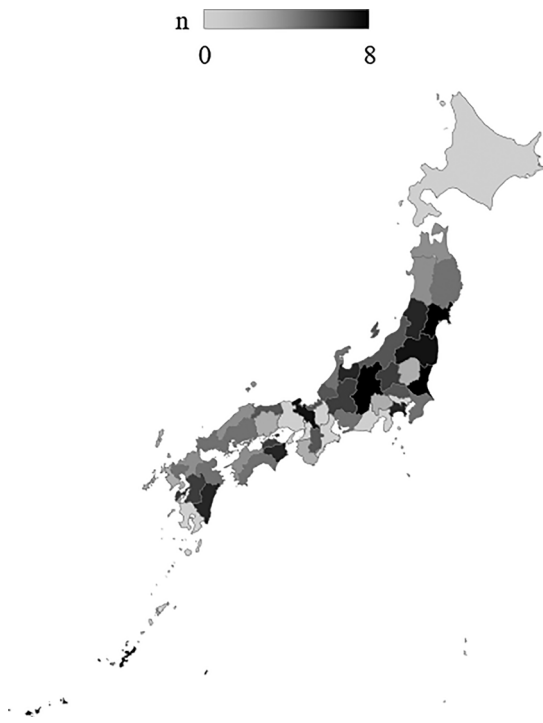


Figure 4. Frequency of respondents across the nation.

wrestling (5.7%) and track and field (5.7%; see Fig. 3). Geographic locations were widely dispersed throughout Japan as our data covered 39 prefectures (see Fig. 4). The years that the 39 prefectures hosted the NSF ranged from 1953 to 2012, allowing our respondents to account for the manifestation of the lasting and enduring aspects of sport legacies. Ethical approval for this study was obtained from the Research Ethics Committee of the first author's institution.

Measures

To measure sport infrastructure legacy, we adopted items from previous research (Karadakis & Kaplanidou, 2012). We generated new items to

supplement the conceptual framework (see Table 1). We measured youth sport development legacy with four items based on Green's (2005) pyramid model. This model involves a recruiting system and a progression from lower levels to higher levels of engagement. Grassroots sport development legacy was measured with a four-item scale that reflects Vail's (2007) four levels of sport pathway activities: trial, learning, play, and competition. To measure sport participation legacy, we adopted two items (junior and senior participation) from Frawley and Cush (2011) and included two additional items (male and female participation) in the scale to assess a broader range of sport participation. Finally, we measured sport inspiration legacy using four items generated based on our definition

Table 1
The CFA Results

| Construct/Item | λ | CR | AVE |
|--|-----------|------|------|
| Sport infrastructure legacy | | 0.94 | 0.79 |
| The NSF developed sport infrastructure (e.g., stadiums and training facilities) that allows sustainable sport participation among local residents. | 0.89 | | |
| The NSF developed sustainable and environmentally sound sport facilities. | 0.94 | | |
| The NSF built only necessary sport infrastructure that will be effectively used after the NSF. | 0.95 | | |
| The NSF improved existing sport facilities that allow sustainable sport participation among local residents. | 0.77 | | |
| Sport inspiration legacy | | 0.96 | 0.87 |
| The NSF created a new understanding of national sport competitions among young athletes in the local community. | 0.97 | | |
| The NSF provided a positive inspiration on national sport competitions among young athletes in the local community. | 0.97 | | |
| The NSF developed a better understanding of national sport competitions among young athletes in the local community. | 0.92 | | |
| The NSF encouraged young athletes in the local community to compete at the national level after the NSF. | 0.88 | | |
| Youth sport development legacy | | 0.92 | 0.74 |
| The NSF built a recruiting system to enroll children in particular youth sport programs. | 0.85 | | |
| The NSF helped the host city to retain youth athletes in particular sport programs. | 0.89 | | |
| The NSF facilitated the transitions that children make from athletes to young coaches in the local community. | 0.88 | | |
| The NSF created a transition system from lower levels to higher levels depending on young athletes' performance in particular sports. | 0.83 | | |
| Grassroots sport development legacy | | 0.96 | 0.85 |
| The NSF provided more opportunities to participate in recreational sport among local residents. | 0.92 | | |
| The NSF promoted opportunities to learn sport among local residents. | 0.96 | | |
| The NSF provided additional opportunities to play sport among local residents. | 0.97 | | |
| The NSF gave more opportunities to participate in athletic competitions among local residents. | 0.84 | | |
| Sport participation legacy | | 0.89 | 0.67 |
| The NSF increased the number of male sport participants in the local community. | 0.90 | | |
| The NSF increased the number of female sport participants in the host city. | 0.88 | | |
| The NSF increased the number of senior sport participants in the local community. | 0.70 | | |
| The NSF increased the number of junior sport participants in the host city. | 0.77 | | |

Note. $\chi^2(160) = 309.28$, $\chi^2/df = 1.93$, CFI = 0.96, TLI = 0.95, RMSEA = 0.078, SRMR = 0.056. CR, composite reliability, AVE, average variance extracted.

of the construct. The initial items captured the public meaning of elite-level sport events and athletes as role models and motivational stimuli.

To evaluate the content validity of the developed items, three sport management researchers were invited to evaluate each item as being *Not Representative* (0), *Somewhat Representative* (1), and *Clearly Representative* (2) of the construct definition (Tian et al., 2001). Items rated to be clearly representative by two judges and no worse than somewhat representative by a third judge were deemed to be content valid. Based on this analysis, all items generated were included. All items were measured on a 7-point Likert type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

Back Translation

All study constructs were developed in English and translated into Japanese. To translate the English instruments into Japanese, we used a back-translation technique (Brislin, 1970). First, the original English version was translated into Japanese by one of the authors who is fluent in both languages. Second, the translated items were back-translated into English by another bilingual researcher. Third, a native English speaker assessed the meaning equivalence between the original and back-translated instruments and identified minor discrepancies for two items. Fourth, the same two bilingual translators from the first and second steps corrected these errors and repeated the translation and back-translation of the problematic items. Finally, the same native English speaker compared the corrected back-translated items with the original items. Through these procedures, no further discrepancies were found.

Analyses and Results

Assessment of the Measurement Model

Using Muthén & Muthén's Mplus (version 7.31), we performed a confirmatory factor analysis (CFA) to estimate the measurement model (see Table 1). The fit indices indicated that the measurement model was an acceptable fit to the data: $\chi^2/df = 1.93$, comparative fit index (CFI) = 0.96, Tucker Lewis index (TLI) = 0.95, root mean square error

of approximation (RMSEA) = 0.078, standardized root mean square residual (SRMR) = 0.056 (Hu & Bentler, 1999). Our scales also exhibited good psychometric properties [$\lambda = 0.70$ – 0.97 , composite reliability (CR) = 0.89–0.96, average variance extracted (AVE) = 0.67–0.87], providing evidence of convergent validity. Moreover, we used Fornell and Larcker's (1981) criterion of discriminant validity and compared the square root of the AVE value of each construct with its correlations with any other constructs. In a total of ten correlations between the five latent constructs, the square roots of the AVE values were greater than any correlations between all pairs of constructs. Thus, discriminant validity was established.

Our sample size was relatively small although our item-to-response ratio of 1:8 exceeded the recommended ratio of 1:4 (Hinkin, 1995). Therefore, we conducted additional analyses for factor analysis. First, when the sample size is relatively small, all indicators must have high factor loadings ($\lambda > 0.60$; Kline, 2005). As shown in Table 1, all factor loadings were greater than 0.60, indicating that we used items with good psychometric characteristics. Second, we calculated skewness and kurtosis values to ascertain whether the data were normally distributed (see Table 2). The skewness values for the five dimensions of sport legacy were all close to zero and smaller than the absolute value of 1.0. The kurtosis values for the five dimensions were also smaller than the absolute value of 3.0, indicating a normal distribution for our data (Kline, 2005). These analyses allowed us to increase confidence that the current sample size did not lead to biased results.

Furthermore, because this study relied on cross-sectional data, the correlations between predictor and outcome variables might be inflated by common method variance (CMV). To address statistical remedies, we first tested the fit indices of a one-factor model in which all observed variables loaded on a single factor (Mossholder et al., 1998; Podsakoff et al., 2003). The logic underlying this analysis is that if CMV largely accounts for the covariation among the observed variables, a one-factor measurement model in CFA fits the data (Mossholder et al., 1998). Thus, we tested a one-factor CFA model to detect CMV. The results suggested that the one-factor model did not fit well ($\lambda^2/df = 10.24$, CFI = 0.53, TLI = 0.48, RMSEA = 0.247,

Table 2
Descriptive Statistics, Correlation Coefficients, and the Square Roots of the AVE Values

| Construct | Mean (SD) | Skewness | Kurtosis | φ Matrix (N = 158) | | | | |
|-------------------------------------|-------------------------|----------|----------|--------------------|-------------|-------------|-------------|-------------|
| | | | | 1 | 2 | 3 | 4 | 5 |
| Sport infrastructure legacy | 4.09 (1.76) | -0.29 | -0.91 | 0.89 | 0.20* | 0.46** | 0.46** | 0.26** |
| Sport inspiration legacy | 4.98 (1.47) | -0.79 | 0.20 | 0.28** | 0.93 | 0.65** | 0.41** | 0.58** |
| Youth sport development legacy | 3.73 (1.39) | -0.20 | -0.50 | 0.54** | 0.73** | 0.86 | 0.59** | 0.60** |
| Grassroots sport development legacy | 3.98 (1.42) | -0.28 | -0.41 | 0.54** | 0.49** | 0.67** | 0.92 | 0.56** |
| Sport participation legacy | 4.16 (1.39) | -0.33 | 0.09 | 0.34** | 0.66** | 0.68** | 0.64** | 0.82 |
| Population (CMV marker) | 110,947.06 (191,358.38) | 4.31 | 22.96 | 0.04 | 0.11 | 0.19* | 0.12 | -0.07 |

Note. The square root of the AVE value for each latent construct is depicted in bold on the diagonal; The mean values, standard deviations (SDs), skewness and kurtosis values for the six factors are obtained using IBM SPSS statistics 26.0; Correlation coefficients are obtained from φ matrix using Mplus Version 7.31 and are shown in the lower triangle of the correlation matrix. CMV adjusted correlations are presented in the upper triangle of the correlation matrix. We calculated the adjusted correlation between construct *i* and construct *j* (r_{ijA}) as follows (Lindell & Whitney, 2001):

$$r_{ijA} = \frac{r_{ijU} - r_M}{1 - r_M}$$

where r_{ijU} is the uncorrected correlation between construct *i* and construct *j*, and r_M is the method variance adjustment that is estimated by calculating the smallest positive correlation between the manifest variables and the marker variable (population in this study). We computed z-scores for population because the manifest variables and population were measured by different scales. For a sample size of *n*, the statistical significance of the adjusted correlations (*t* statistic) can be calculated by the following equation:

$$t_{\infty/2, n-3} = \frac{r_{ijA}}{\sqrt{(1 - r_{ijA}^2) / (n - 3)}}$$

* $p < 0.05$; ** $p < 0.01$.

SRMR = 0.132) and the proposed five-factor model was a better fit to the data than the one-factor model [$\Delta\chi^2(10) = 1432.34, p < 0.01$].

Second, we used Lindell and Whitney's (2001) marker variable technique and selected population size as a marker variable because the population size of NSF host communities was thought to be theoretically unrelated to our predictor and outcome variables. We computed z-scores for population size (minimum value = -0.55, maximum value = 7.10, mean = 0, standard deviation = ±1.00) and chose the lowest positive correlation ($r = 0.04$, see Table 2) between population size and sport infrastructure legacy as the estimate of CMV. We calculated the adjusted correlations between the latent constructs (see the upper triangle of the φ matrix in Table 2; Lindell & Whitney, 2001). All the adjusted correlations remained significant after controlling for CMV. Collectively, CMV bias was unlikely to be an issue in this study.

Assessment of the Structural Model

To test the hypothesized relationships, we conducted structural equation modeling (SEM) via

Mplus Version 7.31 (see Fig. 5). The fit statistics for the hypothesized model were acceptable ($\chi^2/df = 2.05$, CFI = 0.95, TLI = 0.94, RMSEA = 0.083, SRMR = 0.071; Hu & Bentler, 1999). The extent to which the exogenous variables accounted for the variance in the endogenous variables were assessed by R^2 values. The R^2 values for sport inspiration, youth sport development, grassroots sport development and sport participation legacies were 0.07, 0.64, 0.44, and 0.61, respectively. With respect to hypothesis testing, sport infrastructure legacy positively influenced sport inspiration legacy ($\beta = 0.27, p < 0.01$), whereas the impact of sport infrastructure legacy on sport participation legacy was not significant. Thus, we found support for H1, but not for H3. Sport inspiration legacy was found to positively influence sport participation legacy ($\beta = 0.33, p < 0.01$), in support of H2. Moreover, both sport infrastructure legacy ($\beta = 0.37, p < 0.01$) and sport inspiration legacy ($\beta = 0.62, p < 0.01$) had positive influences on youth sport development legacy, which in turn affected sport participation legacy ($\beta = 0.27, p < 0.05$). Similarly, sport infrastructure legacy ($\beta = 0.44, p < 0.01$) and sport inspiration

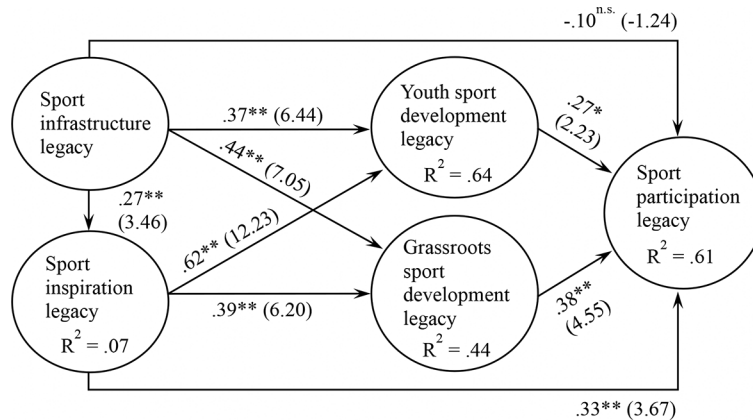


Figure 5. Hypothesis testing. $\chi^2(161) = 330.71$, $\chi^2/df = 2.05$, CFI = 0.95, TLI = 0.94, RMSEA = 0.083, SRMR = 0.071. * $p < 0.05$; ** $p < 0.01$; n.s. = not significant; t values are shown in parentheses.

legacy ($\beta = 0.39$, $p < 0.01$) were positively associated with grassroots sport development legacy, which in turn positively influenced sport participation legacy ($\beta = 0.38$, $p < 0.01$). These results provide support for the sequential relationships between the input, throughput and output factors. A further test for the indirect trickle-down effects is presented in the next mediation analysis.

To examine the hypothesized indirect trickle-down effects, we carried out a bootstrapping analysis (Preacher & Hayes, 2008). As shown in Table 3, a bootstrap estimation based on 5,000 resamples revealed that the 95% confidence interval (CI) for the indirect effect of sport infrastructure legacy on sport participation legacy through grassroots sport development legacy did not include zero. Similarly, the 95% CI was greater than zero for the indirect

effect of sport inspiration legacy on sport participation legacy through grassroots sport development legacy. According to Preacher and Hayes (2008), the exclusion of zero in the bootstrap 95% CI suggests a significant indirect effect. Thus, our results provide evidence that grassroots sport development legacy mediates the impact of sport infrastructure legacy and sport inspiration legacy on sport participation legacy. Thus, H4b and H5b were supported while H4a and H5a were rejected.

Discussion

Theoretical Implications

Our guiding research question was: What are the roles of youth and grassroots sport development

Table 3
Indirect Effects

| Indirect Effect | Bootstrap Estimate (Standardized) (SE) | 95% CI | |
|---|---|--------|-------|
| | | Lower | Upper |
| Infrastructure → youth → participation (H4a) | 0.10 (0.05) | -0.01 | 0.17 |
| Infrastructure → grassroots → participation (H4b) | 0.17* (0.04) | 0.05 | 0.22 |
| Inspiration → youth → participation (H5a) | 0.17 (0.09) | -0.02 | 0.34 |
| Inspiration → grassroots → participation (H5b) | 0.15* (0.04) | 0.07 | 0.23 |

Note. Infrastructure, Sport infrastructure legacy; Youth, Youth sport development legacy; Participation, Sport participation legacy; Grassroots, Grassroots sport development legacy; Inspiration, Sport inspiration legacy; CI, confidence interval; SE, standard error.
* $p < 0.05$.

legacies in promoting lasting sport participation through the hosting of NMSEs? In answering this question, our findings revealed that both sport infrastructure and sport inspiration legacies positively influenced youth sport development and grassroots sport development legacies, which in turn contributed to sport participation legacy. In addition, our bootstrap analysis suggests the hosting of NMSEs significantly boosts sport participation, primarily through enhancing grassroots sport opportunities. This supports the notion that local grassroots sport initiatives are crucial in capitalizing on the legacies of NMSEs for sustainable sport development and participation. By indirectly linking sport infrastructure and sport inspiration to increased sport participation through the development of grassroots sport opportunities, our study demonstrates the importance of the mediating role of grassroots sport development legacy in the context of NMSEs.

The central findings from our study provide three theoretical implications that advance our understanding of the sport legacy of NMSEs and the trickle-down effect. First, our findings suggest that sport event legacy research should address two previously neglected forms of sport legacy, youth and grassroots sport development legacies, in addition to sport infrastructure, sport inspiration, and sport participation legacies. This conceptual approach is important in light of growing concerns about local sport development (Rowe et al., 2013) and sport capacity building (Girginov & Hills, 2008) because sustainable sport participation can be achieved by empowering host cities to design their own sport programs and developing local sport capacity (Girginov & Hills, 2008). Our typology is useful in the development of theories in the context of NMSEs because it identifies two meaningful patterns (direct and indirect routes) of the trickle-down effect and paves the way for promoting sport participation legacy through the development of grassroots sport opportunities associated with NMSEs. Given the increased prominence of and pressure on youth athletes, as well as the limited funds provided to grassroots sport organizations, NMSEs offer a more responsible and sustainable form of sport development. NMSEs are less commercialized than their MSEs counterparts, reducing the pressure put on athletes. Furthermore, NMSEs also prioritize the local use and application of funds, in

contrast to highly centralized decisions made by MSEs' organizing committees that are less likely to be involved and aware of the needs of the local host community (Taks, 2013).

Second, we extend previous research involving the traditional trickle-down effect phenomenon (Hindson et al., 1994; Wicker & Sotiriadou, 2013). Sport inspiration legacy directly influenced sport participation, while sport infrastructure and inspiration had indirect effects via grassroots sport development legacy. This finding is consistent with previous research that suggests the long-term impact of hosting sporting events is enhanced when the trickle-down effect accompanies the development of community sport clubs (Potwarka & Wicker, 2021) and sport participation programs (Green, 2007). This explanation supports the notion that grassroots sport development is the most important strategy to transform sport infrastructure and sport inspiration into sport participation (Girginov & Hills, 2008; Ramchandani & Coleman, 2012). Using this implication, scholars can begin to develop and examine theoretical models of the indirect trickle-down effect through grassroots sport development legacy in other NMSEs.

Our third contribution demonstrates the direct impact of sport inspiration legacy on sport participation legacy. This finding is consistent with the view that the trickle-down effect occurs by inspiring people to participate in sport activities through elite sport performance (Wicker & Sotiriadou, 2013). While previous studies offered limited support for the trickle-down effect in MSEs (Agha et al., 2012; Veal et al., 2012), our results imply that the trickle-down effect occurs from hosting NMSEs. NMSEs have their roots in local culture and tradition. Local athletes' achievements, amplified by media, government, and schools, encourage increased sport participation in host communities. Therefore, NMSEs with local partnerships likely bridge the gap between athletes and residents in sport participation.

Practical Implications

The current study offers valuable insights into the role of sport legacy to enhance sport participation by hosting NMSEs. First, our results indicate that grassroots sport development legacy promotes

the indirect trickle-down effect by strengthening the impact of sport infrastructure and sport inspiration legacies on sport participation legacy. Supporting the effectiveness of this perspective, Taks (2013) suggested that NMSE-related facilities result in increased knowledge and skill development among local sport organizations, municipal governments, schools, community sport clubs, and residents. Hence, local entities should leverage NMSE facilities to foster grassroots sport programs for wider community sport participation.

Second, our results indicate that both the direct and indirect trickle-down effects may take place in certain NMSE conditions. According to Figure 3, successful NSF sports with respect to creating sport legacy were hockey, canoeing, rowing, fencing, handball, wrestling, and track and field. In Japan, these sports are generally performed by amateur and nonprofessional players. In contrast, the hierarchical structure of highly competitive and formally organized sports in Japan, such as baseball and soccer, may not facilitate the trickle-down effect to sport participation, as these sports attract high-performance athletes selected for training purposes. The less formal structure of recreational sports encourages residents to become involved and participate in these sports (Taks, 2013), thereby facilitating sport participation through grassroots sport development. Thus, we recommend that local sport organizations and governments focus on developing recreational facilities, clubs, and programs to maximize NMSEs' trickle-down benefits.

Limitations and Directions for Future Research

There are several limitations of our study that should be recognized and addressed in future research. First, we acknowledge that our data were collected in 2014. Recent scholarship has identified and examined additional factors such as sport information, education, history, symbols, and policy in sport event legacy research (Thomson et al., 2019). Future research should investigate and refine our typology based on the more recent development of the sport event legacy literature.

Second, we tested the hypothesized relationships based on officials' perceptions of past events. Although officials were asked to report their perceptions on changes in sport legacy, an important question

arises as to whether our predictor (sport infrastructure and inspiration) and mediator (youth and grassroots sport development) variables can predict future sport participation legacy. A predictive study examining these relationships over time, using the same event and location, can address this limitation.

Third, we omitted specific youth and grassroots development types from our empirical analysis. Previous research has identified local sport events, community sport clubs, school sport clubs, and physical education programs as key practices in local sport development strategies (Aizawa et al., 2023; Djaballah et al., 2015; Millar & Doherty, 2018; Misener et al., 2015). Thus, a suggestion for future research is to examine how sport participation legacy is enhanced by implementing certain sport development practices that are designed after NMSEs are held.

Conclusion

This research supports the joint influences of sport infrastructure, sport inspiration, and grassroots sport development legacies on sport participation legacy, representing a new perspective on achieving mass sport participation by hosting NMSEs. Our study, grounded in systems theory, emphasizes the interconnectedness and dynamic interactions within sport legacy, revealing that the joint impact of sport infrastructure, inspiration, and grassroots development legacies is crucial for cultivating a sustainable sport participation legacy from NMSEs. Framing our findings within systems theory provides clear empirical support for the indirect trickle-down effect. This study urges sport managers, officials, and policymakers to ensure that well-developed grassroots sport programs are a legacy of hosting NMSEs. Overall, NMSEs offer many benefits similar to MSEs but without their drawbacks, such as excessive commercialization and financial costs.

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References

- Agha, N., Fairley, S., & Gibson, H. (2012). Considering legacy as a multi-dimensional construct: The legacy of the Olympic Games. *Sport Management Review*, 15(1), 125–139. <https://doi.org/10.1016/j.smr.2011.08.004>
- Aizawa, K., Orr, M., Inoue, Y., Nagazumi, J., & Yoshida, M. (2023). Leveraging sport events for sustainable sport participation: How schools contribute to sport development through events. *European Sport Management Quarterly*, 23(3), 662–682. <https://doi.org/10.1080/16184742.2021.1910326>
- Allender, S., Cowburn, G., & Foster, C. (2006). Understanding participation in sport and physical activity among children and adults: A review of qualitative studies. *Health Education Research*, 21, 826–835. <http://dx.doi.org/10.1093/her/cy1063>
- Bauman, A. E., Kamada, M., Reis, R. S., Troiano, R. P., Ding, D., Milton, K., Murphy, N., & Hallal, P. C. (2021). An evidence-based assessment of the impact of the Olympic Games on population levels of physical activity. *The Lancet*, 398(10298), 456–464. [https://doi.org/10.1016/S0140-6736\(21\)01165-X](https://doi.org/10.1016/S0140-6736(21)01165-X)
- Bazzanella, F., Peters, M., & Schnitzer, M. (2019). The perceptions of stakeholders in small-scale sporting events. *Journal of Convention & Event Tourism*, 20(4), 261–286. <https://doi.org/10.1080/15470148.2019.1640819>
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185–216. <https://doi.org/10.1177%2F135910457000100301>
- Cervantes, A. (2021, December 14). The Tokyo Olympics' staggering price tag and where it stands in history. *The Wall Street Journal*. <https://www.wsj.com/articles/the-tokyo-olympics-staggering-price-tag-and-where-it-stands-in-history-11627049612>
- Cornelissen, S., Bob, U., & Swart, K. (2011). Towards redefining the concept of legacy in relation to sport mega-events: Insights from the 2010 FIFA World Cup. *Development Southern Africa*, 28(3), 307–318. <https://doi.org/10.1080/0376835X.2011.595990>
- De Bosscher, V., Shilbury, D., Theeboom, M., Van Hoecke, J., & De Knop, P. (2011). Effectiveness of national elite sport policies: A multidimensional approach applied to the case of Flanders. *European Sport Management Quarterly*, 11(2), 115–141. <https://doi.org/10.1080/16184742.2011.559133>
- Djaballah, M., Hautbois, C., & Desbordes, M. (2015). Non-mega sporting events' social impacts: A sensemaking approach of local governments' perceptions and strategies. *European Sport Management Quarterly*, 15(1), 48–76. <https://doi.org/10.1080/16184742.2014.1000353>
- Duan, Y., Mastromartino, B., Nauright, J., Zhang, J. J., & Liu, B. (2021). How do perceptions of non-mega sport events impact quality of life and support for the event among local residents? *Sport in Society*, 24(10), 1742–1762. <https://doi.org/10.1080/17430437.2021.1916247>
- Esparza, L. E., & Price, R. (2015). Convergence repertoires: Anti-capitalist protest at the 2010 Vancouver Winter Olympics. *Contemporary Justice Review*, 18(1), 22–41. <https://doi.org/10.1080/10282580.2015.1005503>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177%2F002224378101800104>
- Frawley, S., & Cush, A. (2011). Major sport events and participation legacy: The case of the 2003 Rugby World Cup. *Managing Leisure*, 16(1), 65–76. <https://doi.org/10.1080/13606719.2011.532605>
- Girginov, V., & Hills, L. (2008). A sustainable sports legacy: Creating a link between the London Olympics and sports participation. *International Journal of the History of Sport*, 25(14), 2091–2116. <https://doi.org/10.1080/09523360802439015>
- Gratton, C., & Preuss, H. (2008). Maximizing Olympic impacts by building up legacies. *International Journal of the History of Sport*, 25(14), 1922–1938. <https://doi.org/10.1080/09523360802439023>
- Gratton, C., & Taylor, P. (2000). *Economics of sport and recreation*. Routledge.
- Green, B. C. (2005). Building sport programs to optimize athlete recruitment, retention, and transition: Toward a normative theory of sport development. *Journal of Sport Management*, 19(3), 233–253. <https://doi.org/10.1123/jsm.19.3.233>
- 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. <https://doi.org/10.1080/09523360701311810>
- Griffiths, M., & Armour, K. (2013). Physical education and youth sport in England: Conceptual and practical foundations for an Olympic legacy? *International Journal of Sport Policy and Politics*, 5(2), 213–227. <https://doi.org/10.1080/19406940.2012.656676>
- Grix, J., Brannagan, P. M., Wood, H., & Wynne, C. (2017). State strategies for leveraging sports mega-events: Unpacking the concept of 'legacy.' *International Journal of Sport Policy and Politics*, 9(2), 203–218. <https://doi.org/10.1080/19406940.2017.1316761>
- Hindson, A., Gidlow, B., & Peebles, C. (1994). The trickle down effect on top level sport: Myth or reality? A case study of the Olympics. *Australian Journal of Leisure and Recreation*, 4(1), 16–31.
- Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967–988. <https://doi.org/10.1177%2F014920639502100509>
- Hogan, K., & Norton, K. (2000). The 'price' of Olympic gold. *Journal of Science & Medicine in Sport*, 3, 203–218. [https://doi.org/10.1016/S1440-2440\(00\)80082-1](https://doi.org/10.1016/S1440-2440(00)80082-1)
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria

- versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Inoue, Y., & Havard, C. T. (2014). Determinants and consequences of the perceived social impact of a sport event. *Journal of Sport Management*, 28(3), 295–310. <https://doi.org/10.1123/jsm.2013-0136>
- Karadakis, K., & Kaplanidou, K. (2012). Legacy perceptions among host and non-host Olympic Games residents: A longitudinal study of the 2010 Vancouver Olympic Games. *European Sport Management Quarterly*, 12(3), 243–264. <https://doi.org/10.1080/16184742.2012.680067>
- Kim, W., Jun, H. M., Walker, M., & Drane, D. (2015). Evaluating the perceived social impacts of hosting large-scale sport tourism events: Scale development and validation. *Tourism Management*, 48(3), 21–32. <https://doi.org/10.1016/j.tourman.2014.10.015>
- Kline, R. B. (2005). *Principles and practice of structural equation modeling*. Guilford Press.
- Kumar, H., Manoli, A. E., Hodgkinson, I. R., & Downard, P. (2018). Sport participation: From policy, through facilities, to users' health, well-being, and social capital. *Sport Management Review*, 21(5), 549–562. <https://doi.org/10.1016/j.smr.2018.01.002>
- Leopkey, B., & Parent, M. M. (2012). Olympic Games legacy: From general benefits to sustainable long-term legacy. *International Journal of the History of Sport*, 29(6), 924–943. <https://doi.org/10.1080/09523367.2011.623006>
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114–121. <https://doi.org/10.1037/0021-9010.86.1.114>
- Mair, J., Chien, P. M., Kelly, S. J., & Derrington, S. (2023). Social impacts of mega-events: A systematic narrative review and research agenda. *Journal of Sustainable Tourism*, 31(2), 538–560. <https://doi.org/10.1080/09669582.2020.1870989>
- Millar, P., & Doherty, A. (2018). “You can’t just start and expect it to work”: An investigation of strategic capacity building in community sport organizations. *Journal of Sport Management*, 32(4), 348–361. <https://doi.org/10.1123/jsm.2017-0233>
- Misener, L., Taks, M., Chalip, L., & Green, B. C. (2015). The elusive “trickle-down effect” of sport events: Assumptions and missed opportunities. *Managing Sport and Leisure*, 20(2), 135–156. <https://doi.org/10.1080/23750472.2015.1010278>
- Mossholder, K. W., Bennett, N., Kemery, E. R., & Wesolowski, M. A. (1998). Relationships between bases of power and work reactions: The mediational role of procedural justice. *Journal of Management*, 24(4), 533–552. <https://doi.org/10.1177/014920639802400404>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Potwarka, L. R., & Leatherdale, S. T. (2016). The Vancouver 2010 Olympics and leisure-time physical activity rates among youth in Canada: Any evidence of a trickle-down effect? *Leisure Studies*, 35(2), 241–257. <https://doi.org/10.1080/02614367.2015.1040826>
- Potwarka, L. R., & Wicker, P. (2021). Conditions under which trickle-down effects occur: A realist synthesis approach. *Sustainability*, 13(1), 69. <https://doi.org/10.3390/su13010069>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Preuss, H. (2007). The conceptualization and measurement of mega sport event legacies. *Journal of Sport & Tourism*, 12(3–4), 207–227. <https://doi.org/10.1080/14775080701736957>
- Preuss, H. (2019). Event legacy framework and measurement. *International Journal of Sport Policy and Politics*, 11(1), 103–118. <https://doi.org/10.1080/19406940.2018.1490336>
- Ramchandani, G. M., & Coleman, R. J. (2012). The inspirational effects of three major sport events. *International Journal of Event and Festival Management*, 3(3), 257–271. <https://doi.org/10.1108/17582951211262693>
- Ramchandani, G., Davies, L. E., Coleman, R., Shibli, S., & Bingham, J. (2015). Limited or lasting legacy? The effect of non-mega sport event attendance on participation. *European Sport Management Quarterly*, 15(1), 93–110. <https://doi.org/10.1080/16184742.2014.996583>
- Reis, A. C., Frawley, S., Hodgetts, D., Thomson, A., & Hughes, K. (2017). Sport participation legacy and the Olympic Games: The case of Sydney 2000, London 2012, and Rio 2016. *Event Management*, 21(2), 139–158. <https://doi.org/10.3727/152599517X14878772869568>
- Rowe, K., Shilbury, D., Ferkins, L., & Hinckson, E. (2013). Sport development and physical activity promotion: An integrated model to enhance collaboration and understanding. *Sport Management Review*, 16(3), 364–377. <https://doi.org/10.1016/j.smr.2012.12.003>
- Schulenkorf, N., Welty Peachey, J., Chen, G., & Hergesell, A. (2022). Event leverage: A systematic literature review and new research agenda. *European Sport Management Quarterly*. Advance online publication. <https://doi.org/10.1080/16184742.2022.2160477>
- Sotiriadou, K., Shilbury, D., & Quick, S. (2008). The attraction, retention/transition, and nurturing process of sport development: Some Australian evidence. *Journal of Sport Management*, 22(3), 247–272. <https://doi.org/10.1123/jsm.22.3.247>
- Taks, M. (2013). Social sustainability of non-mega sport events in a global world. *European Journal for Sport and Society*, 10(2), 121–141. <https://doi.org/10.1080/16138171.2013.11687915>
- Taks, M., Green, B. C., Misener, L., & Chalip, L. (2014). Evaluating sport development outcomes: The case of a medium sized international sport event. *European Sport Management Quarterly*, 14(3), 213–237. <https://doi.org/10.1080/16184742.2014.882370>
- Tian, K. T., Bearden, W. O., & Hunter, G. L. (2001). Consumers' need for uniqueness: Scale development and

- validation. *Journal of Consumer Research*, 28(2), 50–66. <https://doi.org/10.1086/321947>
- Thomson, A., Cuskelly, G., Toohey, K., Kennelly, M., Burton, P., & Fredline, L. (2019). Sport event legacy: A systematic quantitative review of literature. *Sport Management Review*, 22(3), 295–321. <https://doi.org/10.1016/j.smr.2018.06.011>
- Toohey, K. (2008). The Sydney Olympics: Striving for legacies—overcoming short-term disappointments and long-term deficiencies. *International Journal of the History of Sport*, 25(14), 1953–1971. <https://doi.org/10.1080/09523360802439270>
- Vail, S. E. (2007). Community development and sport participation. *Journal of Sport Management*, 21(4), 571–596. <https://doi.org/10.1123/jsm.21.4.571>
- van den Bekerom, P., Schalk, J., & Torenvlied, R. (2017). Transforming input into output: How downward networking mediates the effect of external networking on organizational performance. *Public Performance & Management Review*, 40(4), 625–651. <https://doi.org/10.1080/15309576.2017.1305910>
- Veal, A. J., Toohey, K., & Frawley, S. (2012). The sport participation legacy of the Sydney 2000 Olympic Games and other international sporting events hosted in Australia. *Journal of Policy Research in Tourism, Leisure and Events*, 4(2), 155–184. <https://doi.org/10.1080/19407963.2012.662619>
- Von Bertalanffy, L. (1972). The history and status of general systems theory. *Academy of Management Journal*, 15(4), 407–426.
- Weed, M., Coren, E., Fiore, J., Wellard, I., Chatziefstathiou, D., Mansfield, L., & Dowse, S. (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. <https://doi.org/10.1080/16184742.2014.998695>
- Wicker, P., & Sotiriadou, K. P. (2013). The trickle-down effect: What population groups benefit from hosting major sport events? *International Journal of Event Management Research*, 8(2), 25–41.
- Yoshida, M. (2017). Sport and regional development through the hosting of the National Sports Festival. In R. Yasui (Ed.), *My town* (Vol. 134, pp. 1–5). Ehime Center for Policy Research.
- Zawadzki, K. (2020). Social benefits valuation of hosting non-mega sporting events. *International Journal of Event and Festival Management*, 11(3), 289–310. <https://doi.org/10.1108/IJEFM-11-2019-0057>
- Zhou, R., Ross, W. J., Pu, H., Kim, C., Kim, J., Kaplanidou, K., & Leopkey, R. (2021). Exploring partnerships in sport event delivery. *Event Management*, 25(5), 425–444. <https://doi.org/10.3727/152599519X15506259856363>