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# For Sustainable Benefits and Legacies of Mega-Events: A Case Study of the 2018 PyeongChang Winter Olympics from the Perspective of the Volunteer Co-Creators

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**Abstract:** This study examined the outcome of the 2018 PyeongChang Winter Olympics from multiple perspectives. Tourism and sport researchers have focused on the legacy of mega-events, due to the opportunity they provide to transform a city positively, including through the development of the tourism industry. However, outcomes are not always positive, and the effects differ for every event. The effects of an event can be short-term or long-term. An event, to be truly successful, should aim to have a long-lasting and sustainable positive effect for everyone involved in hosting the event. Additionally, the outcome effects are perceived to be different by each stakeholder of any event. While the roles of volunteers are critical to the success of an event, their perspectives of the event outcomes have been relatively overlooked. Therefore, this study examined the legacy of the 2018 Winter Olympics, as the most recent and unique Olympics (also known as the Peace Olympics), from the perspectives of the volunteers as co-creators. Specifically, volunteers were asked to explain their perceptions of the success of the Olympics. Furthermore, they were asked to identify the legacy of volunteering and the legacy of the Olympics, in order to examine whether volunteers can distinguish the difference between the legacies of volunteering and the Olympics (i.e., event legacy). Using a modified version of content analysis, the results of the volunteer interviews indicated that volunteers identified the legacies of volunteering on a more personal level, emphasizing personal experience, while they identified the legacies of the Olympics on a community and national level.

**Keywords:** mega-event; volunteer; co-creator; legacies and benefits; sustainable effect; Winter Olympics; South Korea

## 1. Introduction

Mega-events have been shown to affect the hosting place, with various transformative changes [1]. Countries and cities have been motivated to host mega-events, expecting the positive changes that the events bring and the legacies of these changes have been actively investigated [2–4]. In a tourism context, scholars have focused on the legacies of mega-events because of the opportunity to develop tourism-related infrastructure and media attention [2,5,6]. While event organizers and destination management organizations (DMOs) emphasize the positive effects, legacies are not always positive [1,4].

Moreover, the effect differs for every event, depending on the type of the event, the hosting city's conditions [7], and from whose perspective the event is evaluated [1]. Regardless of who is judging and the location of the hosting destination, it is certain that the hosting cities and organizers hope to have a long-lasting positive effect, in other words, sustainable positive benefits and legacies [8]. A general understanding of sustainability in the event's context, focuses on positive long-term effects or effects that last long after the event [9]. However, it is difficult to clearly define the concept and to measure the effects [8,9]. According to Girginov and Hills [8], it is only recently that the concept of legacy and sustainability in sports development has become prominent in sports communities. Therefore, for the moment, the concept of sustainability is drawn from the IOC's goal for the Olympics to provide positive long-term economic, social, and environmental effects and changes to the hosting cities. To maximize a positive sustainable legacy, as the result of the successful hosting of a mega-event, support and work from the stakeholders are essential [4,10]. For this reason, researchers have examined the legacies of mega-events from the stakeholders' perspectives, but research has mainly focused on the residents' perspectives [10–12]. Researchers should also keep in mind that without the unpaid work of volunteers, it is difficult to offer a unique experience to athletes and visitors [13]. According to the IOC [13], volunteers are the backbone of the event, and without them, the Olympics would not be able to function. Similarly, Goldblatt [14] commented that the event "would cease to exist" without volunteers (p. 110). This makes them the most important stakeholders and co-creators of the event. Despite their important role, there are limited studies on understanding what volunteers think of their legacy, the Olympic legacy, and other aspects of the Olympics, holistically and comprehensively. Rather, previous studies on event volunteering have focused on the one-dimensional perspective, that is, investigating the volunteering experience and the legacy of their volunteering [15,16]. By learning the volunteers' perspectives, not only on volunteering, but also on the mega-event's outcome, more holistically, Olympic organizations can better prepare for volunteer recruitment and retention, which, according to Kim et al. [17] and Bang et al. [18], are essential parts of operating and managing the mega sport events. Indeed, a very recent study on the Olympics by Kim et al. [17] stated that understanding the volunteers, helps to enhance the sustainability of mega-events. Moreover, another line of research emphasized the role of volunteers in bringing a positive impact to the society and contributing to sustainable development. Their contribution to sustainable development extends to the event organization. Pompurová et al.'s [19] study on volunteers traveling to event hosting places, explains that traveling to a hosting place to volunteer is a sustainable form of tourism, in that the tourist desires to help the event organizer and the hosting region. It is reasonable to consider that volunteers contribute to creating a sustainable legacy, as their participation is a form of regional sustainable development.

Here, we used the 2018 PyeongChang Winter Olympics as a study site, exploring whether each event might bring about different legacy effects. The 2018 Winter Olympics is an especially striking event, due to its significant image as a Peace Olympics, an event that initiated discourse amongst countries that have had long-term political tensions [20]. The event was considered significant for two reasons: (1) Hosting the Winter Olympics was a long-cherished desire of South Korea; PyeongChang bid to host the Olympics three times, and won the right to host only on the third time [21]. (2) It recorded the largest number of participants, in terms of countries in the history of the Olympics [22]. For these reasons, the legacy effect of this event might be different from past Olympics. Therefore, this study aimed to explore the legacy of the 2018 Winter Olympics as the most recent and unique Olympics, by expanding and building upon previous studies of mega-event legacies, from the perspectives of the volunteer as a co-creator. The specific objectives of this study are: (1) to conceptualize volunteers as co-creators and active stakeholders helping to achieve sustainable tourism development; (2) to use volunteers' insights to learn their perspective on the success of the Olympics; and (3) to identify the legacy of volunteering and that of the Olympics, and to compare the two. To explore the multifaceted perspective of the Olympics, this study involved conducting online-based interviews where participants

could freely express their opinions. A modified content analysis was employed to address the objectives of the study.

## 2. Study Background

### 2.1. Legacies of Mega-Events

The concept of legacy was first mentioned in 1956 when Melbourne, Australia prepared for the Olympiad [23]. Since then, the concept has gained the attention of both academics and practitioners [4]. Attention has primarily been given to understanding the definition of legacy [1,24] and measuring the legacy for the hosting country and city [10,12].

In terms of defining legacy, the most commonly used term is by International Olympic Committees (IOC). The IOC Charter states that its aim is, “to promote the positive legacy from the Olympic Games to the host cities and host countries” [25]. However, this definition has been criticized by Cashman [24], who states that it only focuses on the positive side of legacy. Researchers have also extensively examined what legacy should mean in mega sports events, whether it should focus on the outcomes, benefits, or legacies. Scholars admit that there is no simple and clear consensus on the definition of legacy [26,27]. Nevertheless, there is some level of agreement on what should be considered in the legacy, such as Preuss’s [27] ‘legacy cube’ of planned and unplanned, intangible and tangible, and negative and positive [4,28]. These dimensions have become the index used to determine the legacy effects. However, scholars have attempted to examine the effect in a more sophisticated way. This led to the classification or categorization of legacies. The pioneer categorization of legacies was suggested by Cashman [29], namely—(1) economic; (2) built, physical, and environmental; (3) sport; (4) symbol, memory, and history; (5) information and education; and (6) public life, politics, and culture. While scholars have used and adopted the earlier classifications [30,31], some have added new categories. For example, many scholars highlighted opportunities for the tourism industry; namely, to develop tourism-related infrastructure (i.e., hotel and transport) and service structure (i.e., tour products, guide system) of the hosting cities, as well as free marketing via increased awareness of the hosting city, through extensive international media coverage of the event [10,32].

Furthermore, the literature points out that legacy effects could differ for the hosting city and country. For example, according to Kaplanidou [33] and Deccio and Baloglu [34], the hosting city and non-hosting city residents feel differently about the legacy. In line with the notion of a different effect, some places enjoy long-term positive effects, while others only experience short-term spill-over effects. More specifically, every event differs because of the size and inputs (e.g., budget and investment) [2]. Moreover, these effects are also seen as distinct, depending on the perspective from which the legacies are evaluated. While legacies have been evaluated by key stakeholders, this was mainly limited to the perspectives of residents [10,12] or members of organizations, directly or indirectly involved with the Olympics [4]. As every event differs in how stakeholders are involved and benefit from it, it is important for researchers to investigate its effects, considering the distinctiveness of the hosting place, and including the viewpoints of multiple stakeholder groups, including those who are relatively neglected in this line of research, to comprehensively understand the legacies of mega sports events. Advocating for a deeper understanding of other stakeholders’ views, Nicholas and Ralston [35] asserted that the volunteers’ legacy has not been considered.

### 2.2. Volunteer as Co-Creator

Hosting the Olympic Games, which is the world’s largest event, is not possible without the collaboration of a variety of stakeholders from different areas, including both public and private stakeholders. Therefore, these stakeholders’ perspectives on the Olympic Games have been of great interest to researchers. To date, researchers have explored the perspectives on the Olympic Games from multiple stakeholder views, covering destination marketing organizations [36] and news media [20,37], as these reflect the view of the key stakeholders (both private and public [38]) and the public, as well

as the local residents' perspectives [10,12,33,39]. In particular, Scheu and Preuss [12] stated that the involvement and support of local residents and the community is crucial for the sustainability and success of an event. Using a broad interpretation of community and residents, these investigations should include people of the hosting county, as well as volunteers who take a lot of responsibility in executing the event. However, there has been limited research that have addressed the volunteers' perspectives on Olympic legacies [35], even though the volunteer is one of the most important stakeholders and is key to a successful Olympics [40–42]. For example, volunteers help to reduce the cost of mega-events, by providing a significant amount of unpaid work [41]. Without volunteers, hosting events of such magnitude becomes impossible.

For the aforementioned reasons, volunteers are the co-creators of mega sporting events. In marketing research, the roles of co-creators were identified as—to be engaged and involved in any stage of production, as well as in promotion and distribution [43]. In mega sporting events, especially the Olympics, volunteers are employed to various areas to provide information about the Games, operations, interpretation, and the media center [44]. Moreover, one of the motivations for volunteering in a sporting event is leisure [45]. This means that their evaluation of the event and hosting place can influence others' decisions about whether to visit the place. They can also be assumed to be a source of word-of-mouth communication about their visit to the hosting site and nearby areas, as well as about their experience with the place to their social networks. This type of communication can take place on a variety of platforms, including various media sharing platforms (i.e., blogs, Instagram, Facebook, Twitter, etc.). In this sense, volunteers can disperse information about the product. In tourism, the "product" is the destination itself. Through the use of word-of-mouth communication, the volunteers can take on the role of co-creator of the tourism product. Therefore, to close a gap in the Olympic legacy literature, volunteers' perspectives as co-creators of the Olympics should be explored. Moreover, to widely investigate how the event can be sustainable in terms of long-term legacies and benefits, the event needs to be examined from the perspective of the volunteers, who are usually the most involved and form the support group.

### *2.3. Volunteering Legacies*

Emphasizing the role of volunteers at events, there have been studies that have attempted to understand the volunteer from various perspectives [35,46]. Scholars have predominantly looked at re-volunteer intention [47,48], recruitment [40], volunteering motivation [49–51], and the volunteer work environment [17]. Additionally, a recent study advocated for the examination of volunteer experience and detailed how the volunteer management program impacts volunteers' perceptions [46]. The primary focus of researchers have differed, however, they all discussed the role of managing the volunteer experience in increasing volunteer intentions in the future.

While research on volunteers has matured and covered a wide range of themes over several decades [52], scholars have pointed out that there has been a lack of consideration of the legacy of volunteers [35]. Addressing this need, few studies have conducted research to understand the legacies of volunteers [15,46]. An empirical study conducted for the 2001 Canada Summer Games by Doherty [15] approached the volunteering legacy in terms of the perceived benefits of volunteering and concluded that volunteering legacies for this event were community contribution, skill enrichment, connection with sport, privileges of volunteering, positive life experience, and social enrichment. Another study by Nichols and Ralston [35] examined the 2002 Commonwealth Games via interviews and surveys, and concluded that volunteering legacies for this event were re-volunteering, increase in volunteering and employability, developing a reliable skilled workforce, opportunity for social inclusion, developing a good practice for managing volunteers, and the economic outcome of reducing the budget. Based on the findings of previous studies, volunteering legacies seem to somewhat overlap with the Olympic legacies. Specifically, community contribution has been described as "help[ing] to make the Game a success" and "giving back to community" [15]. Economic outcome has been described in terms of unpaid workforce (e.g., by using volunteers, a sizable event can be hosted) and,

in turn, visitors can visit the host region and spend money at the site [35]. This perspective leads to questions about whether the volunteers can distinguish the legacy of volunteering and the legacy of the Olympics, and these legacies should be synonymous with one another. To the best of the authors' knowledge, to date, studies have not investigated both legacies in a single study. Thus, this study investigates the legacies in a more multifaceted manner to uncover the legacy of volunteering and the Olympics.

#### 2.4. Purpose of the Study

As the literature review on mega-events and event volunteers has shown, there is still an untapped research theme that focuses on understanding the impact of mega-events and volunteering in a single study. Examining both types of impacts in one study can provide a more holistic perspective of mega-events. Thus, rather than focusing on the Olympics from a unidimensional perspective, this study examines the volunteers' perspective to understand the benefits and contribution of the Olympics in a holistic manner. Based on the literature [19], this study suggests that volunteers' participation in the event makes a sustainable contribution to the Olympics and the hosting region. Thus, although it is not explicitly mentioned, volunteers' evaluation of the Olympics and the volunteer legacy is based on their attention to practicing sustainability. Therefore, by understanding the volunteers' perspectives on sustainability, this study explores the sustainable legacy created by the Olympics. More specifically, this study investigates, (1) whether and why volunteers think of the Olympics as being a successful event or not; (2) how volunteers conceptualize the legacy of their volunteering to the Olympics; and (3) how volunteers perceive that they contributed to the Olympics at the individual, social, and national level. Figure 1 illustrates the study framework.

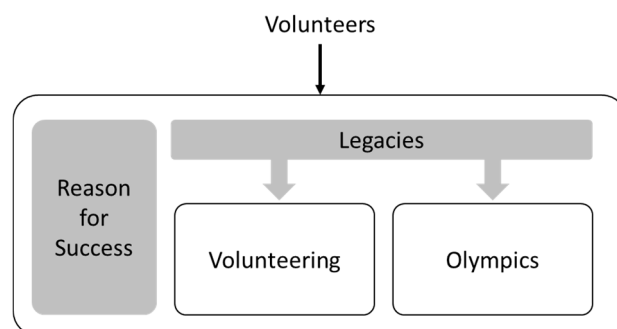


Figure 1. Study framework.

### 3. Methodology

Data were collected from convenience samples of volunteers from the 2018 PyeongChang Olympics, with assistance from the Korean Volunteer Center and the PyeongChang 2018 Organizing Committee, which were in charge of recruiting and training the volunteers. IRB approval was obtained from an academic institution in the United States. An online survey link was sent by the Korean Volunteer Center on 4 May 2018 to approximately 16,200 volunteers who registered as domestic Korean volunteers. The survey link was available until 30 May 2018. The survey was written in Korean. The survey consisted of two close-ended questions (i.e., “Do you think the Olympics were successful?”; “Please indicate the success of the Olympics on a scale of 1 to 7, where 1 is not at all successful and 7 is very successful”), three open-ended questions related to the volunteers' perceptions of legacies (i.e., “How would you evaluate the success of the PyeongChang Olympic Games?”, “What do you think of the legacy outcome of your volunteering?”, “What are the contributions of the PyeongChang Olympics to our society in terms of personal, community, and national level?”), and demographic questions on their place of residence, gender, age, education, etc. The survey questions and answers were translated from Korean to English and back-translated from English to Korean by bilingual researchers. A total of 1991 volunteers responded to the survey. Table 1 provides a profile summary of the respondents.

**Table 1.** Characteristics of Respondents.

	Value	Frequency	%		Value	Frequency	%
Gender	Male	560	28.1%	Education	Less than High School	24	1.2%
	Female	1404	70.5%		High School graduate	657	33.0%
	Other	5	0.3%		Some college degree	117	5.9%
	Nonresponse	22	1.1%		Bachelor's degree	1078	54.1%
Age	19 and below	402	20.2%	Graduate degree	88	4.4%	
	20–29	1230	61.8%	Doctoral degree	23	1.2%	
	30–39	43	2.2%	Nonresponse	4	0.2%	
	40–49	57	2.9%	Place of Resident within Korea	Seoul (capital) and Capital area	1078	54.1%
	50–59	98	4.9%		Kang Won area	208	10.4%
	60+	155	7.8%		Chung Chung area	155	7.8%
Nonresponse	6	0.3%	Ho Nam area (inc. Jeju)		133	6.7%	
Place or Resident	In Korea	1950	97.9%	Yeong Nam Area	358	18.0%	
	Overseas	34	1.7%	Nonresponse	59	3.0%	
	Nonresponse	7	0.4%				

The study adopted a modified qualitative content analysis approach to capture the legacies and contributions from the perspectives of volunteers. The data was first coded using open-coding techniques, based on the researchers' interpretation of the data. The results from the first coding were later categorized and interpreted as the primary themes. The primary themes for coding were guided by the previous studies' classifications and typologies of the sport event legacy [1,10,26,27]. Legacies identified in the previous studies served as the guiding themes, which the coders used for previously identified legacies as reference points. The data was coded manually by researchers. The researchers read the volunteers' responses and categorized them, based on the primary themes.

#### 4. Results and Discussion

##### 4.1. Opinions on the Success of the Olympics

Respondents were asked to indicate the level of success of the Olympics on a scale of 1 to 7 (where 1 is not successful at all and 7 is very successful). They generally felt that the Olympics (or the Olympics Event) was successful, as the average score was 6. There were 50 open codes, which were categorized as 10 primary categories. Table 2 illustrates the primary themes, as well as a majority of the sub-themes from open-coding. The table does not include the reasons that volunteers felt it was not successful. These decisions were made because the reasons mainly focused on not the volunteers not being treated fairly, in terms of accommodations and transportation. Very few mentioned a lack of guidance systems for the international visitors.

Quantitative analysis showed that the volunteers felt great about the Olympics' success, and there were three noticeable reasons. The economic benefit was the foremost popular topic in the Olympics, and it was a primary motivation to host the event [24,27,53]. Unfortunately, the recent Olympics have been a financial disaster (e.g., Sochi and Rio Olympics) [54,55] and the locals in Calgary, Canada rejected a proposal to bid the 2026 Winter Olympics [56]. However, the 2018 PyeongChang Winter Olympics were financially beneficial. There was a small budget, with a high efficiency, for these Games [57]. Therefore, this result was of value to the IOC, as it refuted the Olympics' negative reputation of being costly and involving heavy investments for the hosting communities. This could help governments persuade the public to support their bid to host the Olympics.

Surprisingly, many volunteers gave themselves credit for the Olympics' success, describing personal reasons as factors that contributed to success. In their opinion, the Olympics were successful because of their hard work, devotion, and passion. Moreover, they stated that their personal satisfaction and reward contributed to the success of the Olympics. This result indicated that involvement at the personal level was very important for the volunteers in evaluating the event's success.

**Table 2.** Reasons for considering the 2018 Winter Olympics to be successful.

Primary Reason for Olympic Success	Sub-Themes	Frequency (%)
Personal success	Volunteers' devotion and passion, personal satisfaction, personal accomplishment, rewarding feeling, broadening their network with others	423 (29.7%)
Objective recognition and evaluation	Foreign officers' and (international and domestic) visitors' positive comments, positive press from international and domestic media, IOC evaluation of Olympics, in situ reaction of visitors, athletes' positive comments, foreign volunteers' feedback, attendees' satisfactory feedback	218 (15.3%)
Successful management/operation	Opening and closing ceremony (showcase technological advancement and beautiful performance), ability to control norovirus, creation of the popular Olympic mascot, hosting and operating ability, smooth operations, quick action to fix after complaints	173 (12.2%)
Ensuring safety and security	No terrorism, no major incidents, and accidents	168 (11.8%)
Social enrichment	Improve self-esteem of residents and Korean nations, everyone enjoyed the festival, felt like a member of the global community, proud to host the first Winter Olympics in South Korea	115 (8.1%)
Political stability	Peaceful mood in Korean peninsula and in the world, united Korean team (South and North Korea), promoting peace, and harmony	112 (7.9%)
Enhancing winter sport	Opportunity to highlight and grow winter sports, improve and establish infrastructure for winter sports, quality of facilities (compliments on ice quality), no-biased judgement for games, athletes' excellent performance, fulfilling Olympic spirit	78 (5.5%)
Tourism business opportunity	Improve the country image, promote the host city and country, attract visitors, increase the awareness of South Korea	70 (4.9%)
Economic outcome	Small budget and high efficiency, broke even-point for investment, financial gain, promotion of Korean businesses via sponsor booths	65 (4.6%)

Note: The percentage is calculated based on participants who responded (N = 1422). Non-response not included.

Finally, the most unique point was that previous Olympics did not show the role of the Olympics in facilitating peace. Here, the host country was in a unique political situation because of political unrest between South Korea and North Korea. The conflict and complicated relationship have resulted in negative impacts and people considered South Korea to be an unsafe place to visit [58]. The marching of the South Korean and North Korean teams together at the opening ceremony and the two leaders sitting side-by-side at the opening event, sent the message to the world that the Korean peninsula is beginning to work towards peace and ending the war. This peaceful mood might have seemed to be only politically successful. However, it was inter-related with safety and security, which also contributed to the success of the tourism industry. It is generally believed that there is more tourism when prospective tourists' perceive the destination as being a safe place to visit [59].

#### 4.2. Legacy of Volunteering

While the volunteers were able to identify the legacy of their volunteering at the Olympics, many volunteers seemed to have trouble identifying the legacy of their actions. Those volunteers could not distinguish their own volunteering legacy from the legacy of the Olympics. For example, they believed that the facilities built for the Olympics, such as the Olympic plaza, park, and stadiums built, were a part of their volunteer legacy rather than the Olympic legacy. However, these types of infrastructure were clearly the legacy of the Olympic investment [26], rather than the volunteers' legacy. The legacy of volunteering centered on intangibles, such as the personal and emotional capital. This was consistent with the results of previous studies [16,41]. The legacy of volunteering identified by the 2018 Winter Olympics' volunteers has been briefly outlined in Table 3. The findings indicated that the legacy of volunteering was more meaningful and noble, as it portrayed personal, emotional, and spiritual growth. On the other hand, the volunteers also identified mementos from their volunteer experience (e.g., souvenirs, badge, uniform) as part of their legacy. While these mementos were tangible items, they are deeply connected to the intangible memory that will remind of their experience. Doherty's [15] study recognized this as being a privilege of volunteering. This finding indicated that these intangible aspects were the reasons that people would like to and continue to volunteer. These findings could be helpful to mega-event organizers who plan to recruit volunteers for future events.

**Table 3.** Legacy of volunteering.

Legacy of Volunteering	Sub-Themes
Personal growth	Enhancing self-esteem, communication skills, practicing language skills, opportunity to challenge, broadening their view of the world, sense of accomplishment, self-respect
Volunteer spirit	Corporation, devotion, passion, glory, having to rethink the true meaning of volunteering, motivation to volunteer for other events, and community
Memento	AD card*, photos, video clips, badge, uniform, certificate, written document, volunteering story, volunteer list
Social connection with volunteer group	People, network, international friends, volunteer community, care for each other
Unforgettable memory and experience	Enriching personal experience, once in a lifetime memory, once in a lifetime opportunity to be a part of the Olympics
Contribution to world and country	Patriotism, being a foundation for bring peace and harmony, contributing to something greater than oneself, opportunity to promote South Korea

\* AD card in the Olympics refers to the Accreditation Card, which is equivalent to an ID card. Note: For the frequency and percentage, non-response and those who provided irrelevant responses are not included.



### 4.3. Legacy of 2018 Winter Olympics

The volunteers were asked to describe the legacy of the 2018 Winter Olympics at different levels, in an effort to better understand the different types of legacies. The Table 4 illustrates the volunteers' descriptions of the legacy at three levels. At the personal level, the Olympics' legacies were almost identical to the legacy of volunteering (as described in the previous section). At a personal level, volunteers mentioned that the Olympic legacy was associated with personal growth, in terms of emotion and skill. Other personal level legacies that were noticeable were broadening their social network and diversifying their experience. These legacies were often mentioned in association with the volunteering legacy [15,16,41].

In terms of the community and national level, the sense of community, increased awareness/reputation, and opportunity to promote tourism for the host region and country, as well as the opportunity for economic development were identified as being part of the legacies. Not surprisingly, these legacies have often discussed in sport event legacy studies [26,60,61]. While previous studies discuss investment in infrastructure of sport facilities and social infrastructure (e.g., transportation facilities) as a sports-event legacy [26,62], this was only found at the community level. This could be the result of the fact that South Korea is a highly developed country.

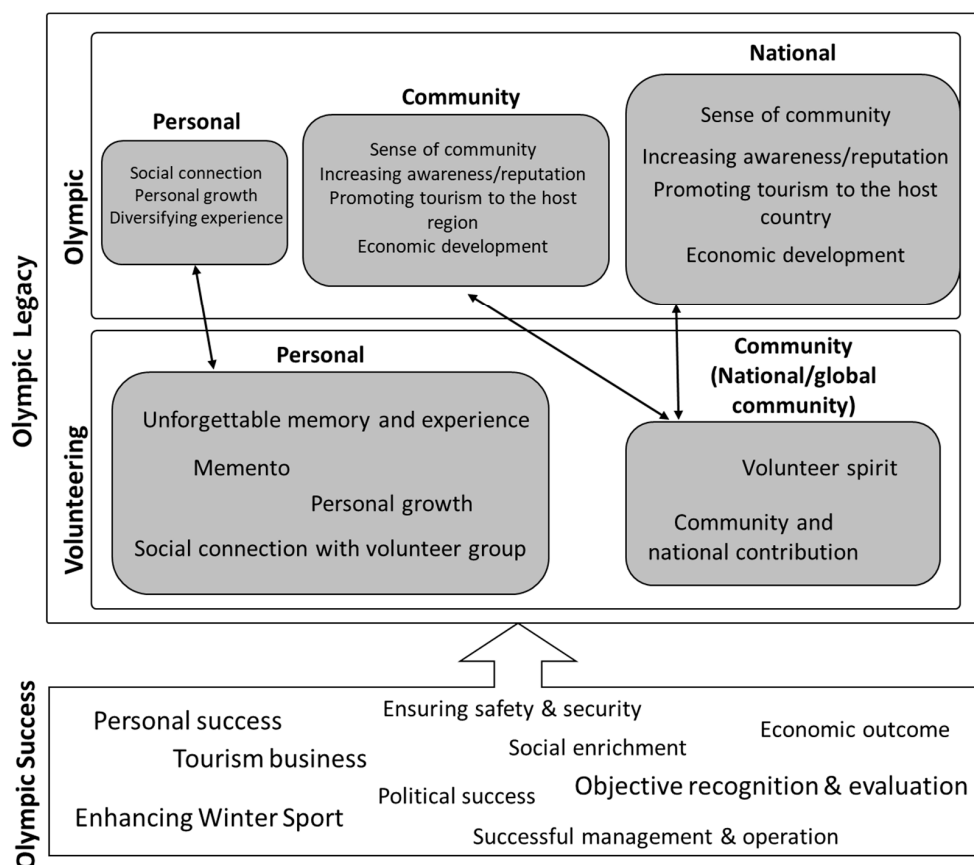
Unlike other mega-events, one important and unique legacy of the 2018 Winter Olympics was that it was the Peace Olympics [63]. The volunteers frequently mentioned the peaceful mood between South Korea and North Korea. They considered the Olympics to be the foundation of this peaceful mood. This finding should be emphasized by the IOC because peace was an important aspect of the Olympic spirit. Throughout the Olympics, the IOC hoped to promote unity, friendship, and the fight for peace [13].

**Table 4.** The legacy of 2018 Winter Olympics at the personal, community, and national levels.

Levels	Legacy	Examples or Sub-Themes (Relevant Contents)
Personal (N = 1352)	Person growth	Rethinking of volunteer experience, self-respect/self-esteem, motivation for life, formation of life value, opportunity to be involved in something better than oneself, educational, growing inspirational spirit, something to be proud of, spirit to challenge, turning point in life, rethinking personal capacity
	Broadening social connection	Broadening personal connectivity, growing social, and communication skills
	Diversifying experience	Opportunity to watch the game in person, new experience, being a part of important world historical event, broadened world view, opportunity to meet world class athletes in person, foreign experience, opportunity to infuse patriotism
Community (N = 1319)	Sense of community	Enhancing patriotism, infusing community pride, opportunity to work together as one community, revitalizing culture, learning to sacrifice personal need and want for community
	Increasing awareness/reputation Promoting tourism to the host region	Cultural exchange opportunity for locals, local peoples' interest in sport, capturing international attention Promoting and marketing of the host city, tourism opportunities, showcasing culture and the environment
	Economic development	Growth of tourism industry, establishing and improving basic infrastructure, growth of local businesses, increase in leisure facilities
National (N = 1382)	Sense of community	National happiness, hope for a united Korea, inter-Korea summit, initiate south/north dialogue, removing political tension between South and North Korea, establishing a peaceful mood, bringing national harmony and unity, increasing sense of pride for Koreans, forming a bond as one nation, showing the importance of hosting international-level events as a country
	Increasing awareness/reputation	Enhancing the nation's reputation, the ability to show South Korea's power in winter sports, showing Korea as a friendly and safe place, promoting peace and stability on the Korean Peninsula, emphasizing importance of winter sports, enhancing ability to host international level events via repeated experience, increase Korea's reputation, showcasing Korea as a winter sport powerhouse, sports diplomacy
	Promoting tourism to the host country	Promoting Korean food and culture, promoting tourism opportunities, promoting Korea, promoting Korea's beautiful traditions and culture, promoting Korea's technology, and promoting Korea's popular culture
	Economic development	Economic development and growth, constructing good quality sport facilities

#### 4.4. Flowchart for Understanding the Volunteer Perspectives on Mega-Events and Volunteering

The analyses of each question, revealed that the factors for thinking of successful Olympic volunteering legacies and Olympic legacies are interrelated, as shown in Figure 2. The factor for the success and Olympic legacy were almost identical. For example, volunteers identified economical outcome as a factor of considering the Winter Olympics to have been a successful event, and also growth in South Korea's economic capital was found to be a part of the Olympic legacy. Similarly, social enrichment, ensuring safety and security, enhancing Korea's image as a Winter Sport powerhouse, enriching social capital, increasing, and advancing tourism opportunity, and positive personal experiences, were also found to be parts of both legacies.



**Figure 2.** Organic flow to understand Olympic success and legacies. Note: The size of diagram in the Olympic Legacy part reflects the frequency of corresponding legacies.

This study found that the personal aspects were identified in all three perspectives. However, the level of importance to each perspective varied. For the Olympics' success and the Olympic legacy, there were relatively fewer personal factors than for the volunteering legacies. In comparing the Olympics' success and the Olympics' legacy, the Olympic legacy at the personal level were identical to the volunteering legacies. However, volunteers emphasized and elaborated on the personal aspects, when mentioning their volunteering legacies. This clearly showed that the legacies for the Olympics and volunteering should be examined separately. For the volunteering legacy, it was about personal gain. This included both material and emotional benefits. The former was illustrated as privileges in Doherty's [15] terms, while the latter was expressed as 'psychic income' by Crompton [64].

## 5. Conclusion

This study examined the outcome of the 2018 PyeongChang Winter Olympics from multifaceted perspectives and focused on the volunteers' viewpoints as co-creators and stakeholders. While studies

on mega-events have matured over the last 20 years, scholars continue to emphasize the need to invest in the outcomes of mega-events. Each mega-event brings different benefits and the aim should be to foster a long-term sustainable legacy, rather than short-term impacts. To investigate the long-term benefits of the Olympic Games, here, we focused on the legacies of both the Olympics and volunteering. This study focused on understanding the volunteers' perspectives because they are an integral factor in the hosting of any Olympic event, but have been largely ignored by scholars [35]. The findings of this study contribute to various subject fields and the sport society.

A major theoretical contribution of this study is illustrating the link between the legacies of the Olympics and volunteering. To date, researchers have either investigated the Olympic legacy or the volunteering legacy, but not both together. By examining, both, the Olympic legacy and the volunteering legacy, the findings enable us to have a deeper understanding of the Olympic legacy. We found that while there were similar benefits shown for both the Olympic and volunteer legacies, their level of benefit varied. Compared to the Olympic legacy, the volunteering legacy was much more focused on personal gains. The personal gains were both emotional (e.g., pride, memory, social inclusiveness) and material (e.g., uniform and AD card). In terms of other legacies, the volunteers reported that the Olympics contributed to the community, country, and the world in a variety of ways. However, the contribution to community and country was mentioned less frequently when volunteers reported the volunteering legacy. This finding suggests that it is worth examining the legacy of both the Olympics and volunteering. It also indicated that these two legacies are not synonymous with one another. To understand the outcome of mega-events (in terms of benefits or legacy), both the volunteering legacy and the Olympic legacy should be investigated.

Another theoretical contribution of this study illustrates the potential use of the co-creation concept to understand the volunteers' perspective of a mega-event legacy. The legacies and contributions were collected from the volunteers' viewpoint. Volunteers are considered to be co-creators and stakeholders in the event. The previous literature has pointed out the important role of volunteers at events in general. However, volunteers have yet to be considered as being co-creators. Prior to this study, the co-creator concept has been used to understand the perspectives and roles of various stakeholders (e.g., visitors and residence), but not volunteers. The passion, devotion, and unpaid labor of volunteers make them the most valuable stakeholder and co-creator of all. However, unfortunately, sufficient credit is rarely given to the volunteers. We found that the volunteers provided valuable views about the Olympics and their volunteering actions. By learning their views and perspectives as co-creators, the findings from this study could then be used to increase the volunteers' interest and involvement in future events.

In terms of practical relevance, a unique contribution of this study was to identify a legacy of peace. The IOC advocates "fighting for peace with an Olympic spirit" and that "together we can change the world" [65]. Among the international society, the 2018 PyeongChang Olympics has been recognized as a Peace Olympics. In their interviews, the volunteers mentioned that the legacy of the Olympics and volunteering was to contribute to creating peace in the Korean peninsula and throughout the world. This was also found to be the reason that volunteers considered the Olympics to be a success. This aspect has not previously been identified in the literature on Olympic legacy [10,12,34] and volunteer legacy [15,35]. This finding supports the notion of the Olympic spirit and that the Olympics can create a sustainable legacy. Additionally, the results can help the event organizer, better understand the volunteers' overall perspective of volunteering and the Olympics. Our work identified the benefits and legacies they felt were important to mention. This perspective can be used to develop recruitment and retention strategies.

This exploratory study has some limitations. To our knowledge, this is the first attempt to understand the outcome of the Olympic legacy from multifaceted perspectives. Thus, although this study attempted to include as many voices as possible and included a large number of volunteers, our findings were not empirically tested. However, this is a minor limitation because qualitative studies also have merit. Qualitative studies can capture the participant's voice and opinion, more freely than

quantitative studies. Additionally, employing an open-ended survey to interview volunteers can be considered a limitation because it may not be able to obtain the in-depth perspective of a formal interview. However, the strategy employed allowed the researchers to approach a large number of volunteers and helped the researchers hear a variety of perspectives which, in turn, provided a broader perspective. Nevertheless, if a quantitative approach was employed to complement the qualitative approach utilized, the findings from this study could be strengthened. Therefore, the findings from this study could serve as a foundation for future studies, which can further help to develop a construct to empirically explore the relationship between volunteering legacies and legacies of mega-events. Additionally, only a few negative aspects were discussed. People cognitively encode the word “legacy” in a positive manner. To understand the legacies more comprehensively, further studies should differentiate between the positive and negative aspects.

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