

Arctic Winter Games 2023
Youth, Sport, Culture
Social and Environmental Sustainability

Research Report

Submitted to the AWG International Committee

March 4, 2024



Prepared by:

Christine DALLAIRE, University of Ottawa (Canada)

Julien FUCHS, University of Western Brittany (France)

Robert C. THOMSEN, Aalborg University (Denmark)

Camille GONTIER, University of Western Brittany (France)

Clémence GIRARD, École Normale Supérieure, Rennes (France)

Audrey BÉGIN, University of Ottawa (Canada)

Elna BERTET, University of Western Brittany (France) and University of Ottawa (Canada)

Salman ALAVI, University of Ottawa (Canada)

Steph MACKAY, University of Ottawa (Canada)

Acknowledgments

We would like to sincerely thank the organizers, chefs de mission, coaches, participants and volunteers we met and worked with during this research. Special thanks to Moira Lassen, Nicole Clow, Melissa Blake, Kyle Seeley, Ian Legaree, Ashley Ryan, Jannelle Kidd, Charity Wiley, Danielle Lo Bianco, Palle Thygesen and John Rodda for their help and advice. We are most grateful to chefs de mission and other mission team members for their support in facilitating the interview process with participants and for assisting in the recruitment of Team/contingent respondents. We also want to thank all the youths and adults who took part in the interviews despite a packed schedule, and for so generously sharing their thoughts and experiences.

Table of contents

- Introduction 6**
- 1. The Arctic Winter Games, a sporting, social and cultural event 7**
 - 1.1. Social and environmental sustainability at the AWG 7**
 - The AWG: scholarly state of the art 8**
 - A rich historiography of ‘regional’ sports games..... 8
 - The Arctic Winter Games as a vehicle for national, Indigenous and Arctic identities..... 8
 - The AWG at the service of communities..... 9
 - 1.2. The Arctic Winter Games as a model for the ‘Games of the Future’ 9**
 - 1.3. The event’s social and environmental responsibility as a focal point:..... 10**
 - 1.4. Scientific questions 10**
- 2. Methodology 12**
- 3. History of the Arctic Winter Games, With a Focus on Social and Environmental Sustainability 16**
 - 3.1 Evolvement of AWG purposes 16**
 - 3.2 Social and cultural sustainability in the history of the Arctic Winter Games 17**
 - 3.3 Environmental sustainability in the history of the Arctic Winter Games 20**
 - 3.4 Previous reports and evaluations..... 21**
- 4. General Results of Participants and Mission team members survey responses, with selected interview excerpts and other relevant data 23**
 - 4.1. Description of the survey respondents..... 23**
 - 4.2. General questions on motivation 23**
 - 4.3. Goals of participants..... 25**
 - 4.4. General questions on satisfaction 30**
- 5. Social sustainability 37**
- 6. Environmental Sustainability 58**
- 7. References 70**

Note: This report is accompanied by appendices (survey results, and more), which can be found in the separate “Appendices” document.

Table of appendices:

1. Appendix 1 - Press release synthesis
2. Appendix 2 - Drawings by participants
3. Appendix 3 - Observations summary
4. Appendix 4 - Survey responses by team
5. Appendix 5 - Survey responses overview
6. Appendix 6 - Survey responses by sport vs cultural discipline with participant comments
7. Appendix 7 - Survey responses by sport discipline with participant comments
8. Appendix 8 - Survey responses by sport discipline
9. Appendix 9 - Survey responses by participant vs mission team member
10. Appendix 10 - Survey responses by cultural discipline with participant comments
11. Appendix 11 - Survey responses by cultural discipline with participant comments 2
12. Appendix 12 - Survey responses Arctic Sports vs Dene Games
13. Appendix 13 - Survey responses all athletes expect Arctic Sports and Dene Games
14. Appendix 14 - Environmental initiatives undertaken by the AWG
15. Appendix 15 - Environmental participants and mission staff suggestions

Glossary

Cultural/Artistic Discipline:	Music, singing, dance, drumming and other performing arts
Cultural Performers:	Individual members of Team/contingents who perform in cultural/artistic disciplines showcased in the cultural events (i.e. Cultural Gala, Pop-up Performances)
Mainstream Sports:	Hockey, volleyball, alpine skiing, archery, badminton, basketball, biathlon ski, cross country ski, curling, figure skating, futsal, gymnastics, snowboarding, speed skating, table tennis, wrestling. While biathlon snowshoe and snowshoeing may be included in the sport programming because of their Northern relevance, they were included in the mainstream sports for analytical purposes in this report.
Mission Team Member:	Chefs de mission, assistant chefs de mission, coaches, chaperones, other staff and volunteers attached to a Team/contingent
Participants:	Individuals who compete in a sport discipline (athletes) or cultural/artistic discipline (cultural performers). Most of them are youths (under 18 yrs) except for adult athletes who take part in Dene Games and Arctic Sports competitions.
Sport Discipline:	All mainstream and traditional sport disciplines included in the sport program.
Team/contingent:	Rather than 'delegation'
Traditional Sports:	Dene Games, Arctic Sports (formerly Inuit Games)

Introduction

This report presents the results of research conducted by an international research team that worked on the 2023 Arctic Winter Games (Wood Buffalo, Alberta, Canada). The main goals of the project were:

To investigate how principles of the Games' social and environmental sustainability are designed and implemented, and how it is perceived and experienced by participants. We were curious also about the ways in which inclusion (or exclusion) of respect for the environment at the Games resonates with the construction of Arctic identity/ies - including the extent to which Indigenous/traditional cultural knowledge was articulated in connection with sustainability, both in terms of discourse and practices or representations. We believe this environmental focus is particularly relevant in Arctic regions where resilience to and mitigation of cultural and social globalization and to climate change are profound societal questions.

In the report, we use the concepts of 'social and environmental sustainability' to address these issues. 'Social sustainability' refers to the dimension of exchanges between participants, their socialization, cultural discovery, and the feeling of belonging to a wider community. Thus, by social sustainability we consider the ability to meet expectations concerning collective Northern/Arctic identity building, cultural celebration, and exchange. Social sustainability in this report hence relates closely to how the AWG achieve their mission of cultural exhibition and social inter-change and how they foster the values of cultural awareness and understanding, fairplay, access and equity, integrity, respect for self and others, partnerships, personal development and community development (AWGIC 2018/2023). Environmental sustainability refers not only to the impact of the Games on the environment but also to the way in which participants' awareness of the issue of environmental protection is addressed within the framework of the Games.

The report is divided into 5 main sections:

1. The **Arctic Winter Games, a sporting, social and cultural event**. We begin by defining and characterizing the Games, drawing on existing scholarly literature.
2. Our **Methodology**. This section sets out our research design and explains why a hybrid methodology, combining quantitative and qualitative data, is relevant for our research.
3. **History of the Arctic Winter Games**. Based on archival research, this section will be of interest to the AWG International Committee and organizers of the Games, even if it does not specifically address the results of our recent survey or interviews.
4. The **General Results** of our participants and organizers survey, interviews and observations. Here, the aim was to highlight the main results about participation in the AWG (motivations, satisfaction, interaction, etc.)
5. **Social sustainability**. Here, focus is on Northern identity, sense of belonging, the perception of a shared culture or the differences between cultures, the balance between traditional sports and mainstream sports as well as between sport disciplines and cultural/artistic disciplines. We also highlight in this section how participants experience the Games (social experiences, interactions, pin trading, etc.)
6. **Environmental sustainability** is the last section of the report. We collected data on participants' perception of the Games as a sustainable event, and their perception of the role of the Games in terms of environmental protection.

1. The Arctic Winter Games, a sporting, social and cultural event

Described by Daniel Bell (2003) as “small but heartfelt,” the Arctic Winter Games, organized since 1970, are an Arctic-wide sports and cultural encounter offering opportunities to come face-to-face in competitions but also to share experience for the peoples of Arctic nations and territories, people who have in common a homeland situated entirely or partly inside the Arctic Circle: Nunavut, Nunavik, Northwest Territories, Alberta and Yukon (Canada); Alaska (United States); Greenland (Denmark); Lapland (Sweden, Finland, Norway); Magadan, Chukotka, Yamal (Russia). Depending on the year, the Arctic Winter Games gather up to two thousand participants, most between the age of 14 and 20.

The AWG embody a dominant sports theme, but also incorporate local cultures and identities through the role that traditional Arctic activities and games have garnered since 1974. The Games are composed of individual or team mainstream sports (volleyball, basketball, wrestling, badminton, as well as a wide range of winter sports: cross-country skiing, downhill skiing, ice hockey, etc.), but also of Dene Games, Arctic Sports and hybrid practises such as biathlon on snowshoes. The Dene Games test utilitarian physical and mental skills of the Athabaskan peoples (Dene Nation), Arctic Sports derive from Inuit culture, highly original in form and featuring agility, flexibility, and strength. Both Dene Games and Arctic Sports originate in the training for survival in a hostile environment.

The cultural concern of the AWG is evident in the inclusion of cultural performers (theater groups, dancers, choirs, etc.), whose performances form part of the general program of the Games as well as the inclusion of an artisan craft market. For the International Committee that manages the Games as a whole, this dimension is essential. It celebrates a "cultural and identity unity of the populations of the Great North" (Da Silva, 2008), relying on the symbolization of a set of characteristics considered singular to these peoples, rather than a geographical definition of the Arctic. The symbolism of identity is also cultivated by the Hodgson Trophy, an Inuit work of art that rewards the delegation that best embodies the ideals of fair play and team spirit.

As a corollary to this promotion of Arctic culture, the Games place priority on educational and socialization objectives. At the beginning of the 1990s, the organizing committee decided to restrict the mainstream sports at the AWG to young people between 14 and 20 years of age. The objective was simple: to rationalize the economic model of the Games, to adopt an "orientation aligned with various accepted sport development models at the time that held investment in youth sport as a more productive way of maximizing the health and social benefits for a majority of our smaller, northern communities" (interview with Ian Legaree, the Games' Technical Director until 2018). Exchange and sharing between participants became a central goal, reflecting the desire to project an image of the Arctic community as united, respectful of each person's individuality, and future oriented.

This identity representation is further explored in our report. The organizing committee aptly expressed this idea when it stated, “AWG brings our Circumpolar World closer together [by] strengthening and showcasing our Communities [and] promoting northern unity and cultural understanding” (AWG 2023). Recognized today as the most important multi-sport and cultural event in the circumpolar world, the AWG is both a sports competition and a youth encounter that celebrates culture and friendship among the peoples of the Far North (Szabo et al., 2003). In this regard, they challenge the contemporary sport model by demanding to be “considered as more than a, or at least an alternative kind of, sports event” (Thomsen et al., 2018).

1.1. Social and environmental sustainability at the AWG

The 2023 Games were held in Wood Buffalo, a municipality in northeastern Alberta with a population of approximately 65,000, featuring Canada's largest national park and encompassing the ancestral

lands of the Cree, Dene and Métis. For the organizers, the 2023 Games were a prime opportunity, through sport, culture and Arctic physical practices, to promote northern identity and cohesion and the protection of Arctic natural heritage. From the point of view of the organizers and the experience of the participants, the Arctic Games is an opportunity to celebrate land uniqueness, which can be seen to incorporate respect for Indigenous Peoples, which equally incorporates protection of the natural environment of the Arctic.

At a time when a sports model based on performance and competition has come under scrutiny, a genuine concern exists in the sports world to promote small-scale events more deeply rooted in local communities and with a greater positive impact on the population. The crucial question of legacy and impact, not only economic, but also social, cultural, educational, environmental, etc., is today at the centre of international sports events (Viersac and Attali, 2021). This concern is obviously relevant for the Arctic Winter Games; since the end of the 1990s, the impact assessments conducted in partnership with researchers have included social and cultural dimensions (e.g., Lankford et al., 2002, 2010, 2014). Still, although the Arctic Winter Games have been the topic of scientific work of an economic, tourism or sociological nature (see box below), none of them deals with sustainability issues as a priority. Our results allow us to discuss these issues with regards to the AWG 2023 in Wood Buffalo.

The AWG: scholarly state of the art

A rich historiography of 'regional' sports games

The question of regional sports games (including the Arctic Winter Games) has already been studied in a variety of ways. Manifestations of the universalization of sports, such as regional games, were acclaimed by the sport and Olympic movement in the second part of the Twentieth Century. At a time in history when the Games were troubled by boycotts and international conflicts, Mikaël Killanin, president of the International Olympic Committee from 1972 to 1980, wrote in the Olympic Review of August 22, 1977, that regional games could serve to make the Olympic movement evolve towards a more fraternal and less politicized model. Researchers exploring the Games as a societal phenomenon have favored the historical understanding of this geopolitical point in time (Chatziefstathiou, 2012; Terret, 2011). Following a similar logic, the Olympic movement has also sought to promote greater integration of youth at the core of the Games, for example, through 'youth camps' (Monnin and Polycarpe, 2014). The focus on youth has emerged alongside regional attachment as an important key to revitalization and modernization. Since 2012, the creation of the Youth Olympic Games has confirmed this shift (Handstad, Parent and Houlihan, 2014). Based on the Olympic model, the Youth Olympic Games place culture and education at the centre of the event, bringing them closer to an Olympic ideal that even the Olympic Games struggle to uphold (Handstad, Parent and Kristiansen, 2013).

The Arctic Winter Games as a vehicle for national, Indigenous and Arctic identities

In this context, the Arctic Winter Games have been investigated extensively within the global context of interest in regional North American games highlighting identity connotations. Capitaine (2012) has shown that events of this type, situated between indigeneity and modernity, are part of a search for affirmation of diversity that questions the Canadian nation state. Dallaire's (2007) work attests to the fact that sports, like festivals, serve as a useful lure "to lead young people to re-affirm their belonging to the community". The Arctic Winter Games are a crucible for reinforcing cultural, regional and northern identities among young people, much like the Francophone pride engendered in young people at events like the *Jeux franco-ontariens*, the *Jeux de l'Acadie* or the Alberta Francophone Games. Convinced of their identity-promoting potential, they blur the norms of sporting excellence to include a more collective, social and cultural character (Dallaire, 2003, 2004). Similarly, in a different setting like Lapland, regional sporting events can serve as a means of recognizing the singularity of an Indigenous sport thoroughly minoritized by Scandinavian sporting institutions (Skille and Broch, 2019). The AWG emerge as a "symbolic response to an internalized differentiation", the harsh living conditions in the North, which they propose to

overcome by "putting a specific culture on display" (Da Silva, 2008: 77) and accentuating the 'We', as illustrated by the slogan 'We Are the Arctic', the anthem of the AWG 2016 in Nuuk. For Thomsen et al. (2018), three different levels of collective identity constructs intertwine within the AWG: pan-Arctic identity, Indigenous identity and regional identity. These Games celebrate the diverse and specific identity of Northern peoples through the image of a 'heritage sport' (Hinch and Ramshaw, 2014), a way of negotiating a complex identity between local (the Arctic) and global (the world sports culture) models. In this way, they help spread interculturality among Arctic populations (Créquy, 2014), despite the epistemological issue they raise concerning the very definition of the mythologized Arctic (Maxwell et al., 2020).

Finally, although the AWG assert the singularity of minorities and the specificity of the Arctic geography, they do so equivocally according to Férez et al (2018). For these authors, the process occurs through an adaptation of the competitive norms and symbols of the Olympic movement with medals - Uluks - in the shape reminiscent of the knives used by Inuit, a flame, opening and closing ceremonies, etc. The sporting standards of the Games, they claim, are a pretext for the formation of an imagined Arctic community, even though the culture highlighted is merely an "a posteriori reconstruction in a geographical area characterized before colonization by a high degree of cultural heterogeneity" (Férez et al., 2008: 9).

The AWG at the service of communities

The literature also emphasizes another aspect: the impact of the AWG for the communities that host them. Research by Field and Kidd (2016), Cécillon (2007), Allain (2007) and Dallaire (2007) shows the importance of such Games in energizing the participating regions by creating links, raising awareness of local collective competency, strengthening a sense of belonging, reinforcing the community's institutional, professional, and economic networks, and enhancing the region's image. The AWG assessments conducted by Mahadevan and Ren (2019) regarding its visibility on the local and international stage confirm these observations. The overwhelming response of visitors to the presence of youth, cultural events, Arctic Sports and Dene Games also shows the power to crystallize collective sentiment around the AWG.

Getz and Page (2016) stress the importance of analyzing the territorial scope of sports and cultural events, especially those directed at youth. For Hinch and De La Barre (2005), the AWG can be seen as a powerful lever for attracting tourists to Arctic population centres and potentially in the South as well, although economic and commercial interests are not necessarily a priority of the Games. Above all, the capacity of these Games to transcend the differences between Indigenous and non-Indigenous peoples of the Arctic on a human scale appears to be a decisive factor in their appeal and regional character, although the question of the Indigenous environment remains a challenge (Butler & Hinch, 2007).

1.2. The Arctic Winter Games as a model for the 'Games of the Future'

In the eyes of those who have analyzed them, the Arctic Winter Games appear to be games of the future (see, e.g., Ren & Rasmussen, 2017) – that is, places of societal innovation and territorial development as well as modernization of the sport and Olympic movement. First, these Games are seen as having deep roots in society, unlike other events such as the Olympic Games, considered less essentially linked to territory or culture. Indeed, they reflect the philosophy of Native sport practices by advocating cooperation, a value endemic to the past and handed down from generation to generation among the peoples of the Arctic (Delsahut, 2020). Through traditions like the Dene Games, the Arctic Games attempt to show the acculturation of Arctic ethnocultural groups, and the possibility of integrating them into a whole greater than the sum of its parts (Giles, 2005), while at the same time consolidating the cultural integrity of Indigenous peoples, according to Heine's observations (1997). Touted as a real competition and not merely folklore, these Dene Games set the standard for an "Arctic culture" (Heine, 2005). At the same time, the Arctic Winter Games emerge as generous games that

promote cultural openness and understanding, a metaphor for 'Games of Life' as defined by Parker and Ninham (2002).

While accepting their limited media coverage, they seem to rise above the political and economic logic governing the organization of other, more highly visible events in the sport and Olympic world. In this way, they challenge the dominant sport model, which today seems outdated in various respects, by promoting a more participatory approach, less focused on excellence with more limits on the effects of competition in favour of strengthening ties between participants and exchanges between intra-national communities characterized by singular demographic and socio-political conditions (Dallaire, 2007). While these games may appear as 'parallel games' capable of disrupting the balance of the Olympic movement (Bernasconi, 2011), they also emerge today amid a climate of growing opposition to the Olympic Games, tarnished by problems of doping, corruption, politicization, etc., as a relevant and socially resonant alternative model. They form part of a trend advocating for the organization of events that place the local populations and their interests at the centre (Ferrand & Chappelet, 2015).

1.3. The event's social and environmental responsibility as a focal point:

Based on these principles, the Arctic Winter Games offer an alternative to international sporting events, by fully integrating the notions of social, land and environmental sustainability. Directly concerned by the issue of global warming and changing weather conditions, which have significantly impacted events such as the Nuuk AWG in 2016 (Ren & Thomsen, 2016), these Games seek to create a model of resilience within an environmental education framework. Given the high stakes involved nowadays, the environment seems an essential trend for the sports and Olympic movement as a whole.

The inclusion of respect for the environment as a value specific to the Games, especially since it can be construed as an element of Indigenous Arctic identities, seems essential here. Indeed, we hypothesize that a twofold idea of environmental sustainability coexists within the Games: sustainability perceived in the modern sense and incorporating the notions of carbon consumption and technical advances allowing for greater respect of the environment, and sustainability perceived in a more traditional sense, experienced by Indigenous communities as considering land and nature a part of culture.

As early as 1907, Pierre de Coubertin insisted on the enjoyment of and respect for the outdoors in an article published in the *Olympic Review on Sport* entitled 'The Pollution of Nature by Tourism and Sport' (Müller et al., 1986). For Maillard and Monnin (2014), this awareness of eco-responsibility is consubstantial with the idea of Olympic education, capable of enriching the institutional sport component of the Olympic Games and their by-products with a more civic-oriented dimension. Moreover, it renders the integration of an ethical way of thinking increasingly difficult to dissociate from these events (Parry, 2012), which must gradually change paradigms to become more responsible and sustainable, especially in terms of their social, ecological and financial footprint, while preserving or even increasing their value (Ferrand and Chappelet, 2015). Incorporating sustainability into the core of the Games is becoming essential to help the sport movement, at a critical point in its history, overcome its contradictions (Hayes and Karamichas, 2012). In this context, it is reasonable for cities or communities aiming to host such events to seek to develop their social image and responsibility, while simultaneously including these events as part of a meaningful policy in this area (Field and Kidd, 2016).

1.4. Scientific questions

Such an evolution of sport games towards an alternative model and/or one that incorporates more social and environmental sustainability is legitimate only if it includes evaluation among its basic principles. Our general research project, of which this report forms a significant part, aims to

understand the social, community and environmental scope of the AWG, one of its goals to determine the extent to which the Arctic Winter Games can become a model of 'Games of the future'. Hence our desire to comprehensively analyze the expectations and experience of participants and host populations. This focus is even more critical for youth sports games, considering that detailed knowledge of youth experience, motives and satisfaction at the Games is a key factor in the social and educational relevance of the games (Prayag & Grivel, 2014). It implies systematized impact assessments, but also receptiveness to qualitative and multidisciplinary methods, to identify trends in expectations and the scope of these Games (Mahadevan & Ren, 2019).

The overall goals of the study, conducted with the participation of organizers and participants, was to understand how the Games' sustainability is designed and implemented, and how it is perceived and experienced by participants. We were curious also about the ways in which inclusion (or exclusion) of respect for the environment at the Games resonates with the identity constructs of Arctic communities - including the extent to which Indigenous/traditional cultural knowledge was articulated in connection with sustainability, both in terms of discourse and practices or representations.

Beyond this general line of questioning, we considered three sets of sub-questions as priorities:

- 1- We initially focused on understanding how the discourses around the Games (by the organizers and the stakeholders) take shape and incorporate, explicitly or not, the theme of sustainability. What were the intentions of the Games organizing committees in relation to the event's sporting, cultural and community/identity objectives and how are they articulated around the relationship to the land (the North) and environmental concerns? How was the principle of sustainability demonstrated? To what degree was it present in the design and presentation of the Games? Is this aspect consciously embedded in how the Games are organized, and how does this conception fit with the notion of promoting Arctic communities?
- 2- We then tried to probe the way in which the principles of social and environmental sustainability were implemented during the Games: are the organizers' intentions part of a communication strategy or are they embodied in practical ways? For example, are there any features related to sustainable development? Does the way in which sport and culture are presented during the Games incorporate this aspect?
- 3- Finally, our third line of questioning investigated how participants and organizers conceived of the Games' sustainability. How did they perceive the environmental issues related to the singularity of Arctic communities? How did they perceive the sports, cultural and community/identity objectives of the Games and what impact did their experience at the Games have on their sense of belonging and their relationship to the land and to environmental concerns? How is the Arctic natural heritage perceived? Were the Games seen as a force for its preservation? According to participants, should the Games play a role in its preservation? What discrepancies exist between the organizers' intentions and the way young people live and perceive the Games, both in terms of identity and environmental issues?

2. Methodology

The study on the social and environmental sustainability of the AWG drew **on different data collection techniques**: document (thematic content) analysis, interviews, a survey of all Team members, and participant observation at the 2023 AWG. The University of Ottawa Research Ethics Review Board assessed and approved the data collection process (File number H-06-22-8134).

The **document analysis** included all information and items posted or accessible on the AWG 2023 Host Society website (<https://awg2023.org/>), and participant registration data including information such as type of sport, age, contingent, home town, gender and years of experience in their sport, as well as participants' goals for the games. We also collected information on the AWG International Committee website (<https://www.arcticwintergames.org/>), on the online OneDrive folder of AWG 2020 documents, the public paper and digital documents of the 2023 Host Society in Wood Buffalo (including *Ulu News*) and those archived in the Yukon Archives (Whitehorse)¹. The contemporary documents consulted included minutes, reports, official programs of the Games, promotional material, files, publications and organizing committee correspondence of the Arctic Winter Games International Committee, as well as those of the host societies of the 2023 Arctic Winter Games. Many thanks to Moira Larssen, Ian Legaree, Nicole Clow and all other individuals that enabled our access to the AWGIC and host society documents. We also completed a press coverage analysis which focused on 26 print or online media reports and 5 video news stories² (see Appendix 1 - Press release synthesis).

The General Manager of the Host Society was interviewed prior to the 2023 AWG to discuss the motivation for hosting and organizing the Games, their interpretation of the sport as well as the Arctic identity, cultural and environmental goals of the Games and to identify the strategies that they have enlisted to achieve them. All other **interviews** were conducted during the Games by Julien Fuchs, Christine Dallaire, Robert C. Thomsen and Camille Gontier with a total of thirty-three (33) participants (athletes and cultural performers) to discuss their sport, identity and cultural experience at the AWG, the exchanges they had, the benefits they derived from participating and how they viewed Arctic identity and the role of the land and the relationship to the environment in their representation of the North and the shared sense of belonging among the organizers, participants and spectators at the AWG. All interviews were semi-structured, based on common interview guides. Most of the interviews were conducted in English with three (3) interviews in French, two (2) held in Danish and Norwegian with Sápmi participants, and two (2) in Danish with Greenland participants. Most participants were interviewed individually, but some chose to be interviewed in groups of 2 or 3 athletes/cultural performers. The report includes the analysis of sixteen (16) audio-recorded interviews conducted in English, two (2) in French, and two (4) in Danish/Norwegian, with altogether 31 participants from Canada, Greenland, Alaska and Norway. The following Table 1 describes these participants.

¹ The Arctic Winter Games Corporation Archives (1966-1990) are housed in Whitehorse. They contain the Corporation's internal documents such as minutes of meetings, financial records, reports, and information of a legal and corporate nature. In addition, documents such as Host Society minutes of meetings and financial records, reports to the Corporation by organizing bodies, printed material (booklets, schedules, press coverage, newspapers, etc.) and technical packages for each Games have been documented as well to preserve the nature and quality of past interactions between the Corporation and various organizing bodies such as Host Societies and Individual Units.

² Many thanks to Flora Lechat for her assistance with this specific work.

Table 1. Description of participants interviewed included in this draft report.

Team/Contingent	Sport/Cultural performer	Gender	Age
Alaska	Arctic Sport/Inuit Games	M	
Alberta North	Wrestling	F	17
Alberta North	Wrestling	F	16
Alberta North	Wrestling	F	15
Alberta North	Dance	F	16
Alberta North	Alpine skiing	F	13
Alberta North	Archery	M	18
Greenland	Badminton	F	16
Greenland	Arctic Sports/Inuit Games	M	
Northwest Territories	Cultural participant (Dance)	M	16
Northwest Territories	Cultural participant (Dance)	F	18
Northwest Territories	Speed skating	F	16
Northwest Territories	Dene Games	M	
Northwest Territories	Speed skating	M	17
Nunavik	Badminton	F	18
Nunavik	Badminton	F	18
Nunavut	Futsal	M	15
Nunavut	Futsal	M	14
Nunavut	Futsal	M	15
Sápmi	Futsal	F	
Sápmi	Futsal	M	
Sápmi	Cultural participant	F	
Yukon	Biathlon	F	
Yukon	Biathlon	F	
Yukon	Alpine skiing	M	13
Yukon	Figure skating	F	13
Yukon	Figure skating	F	13
Yukon	Cross-country skiing	M	16
Yukon	Cross-country skiing	F	17
Yukon	Cross-country skiing	F	17
Yukon	Cross-country skiing	F	15

Notes were taken for two of the interviews in French, rather than producing an audio-recording. At the end of the interviews, some participants were invited to produce a drawing or write a statement to describe their identity, their community, or their perception of the environment at the AWG as an Arctic or Northern event. This data is also included in this report (see Appendix 2 - Drawings by participants). Some of these interviews with participants were arranged through mission team members while other participants were recruited onsite by researchers between competitions. While these interviews are not meant to be representative of all participants, they nevertheless allowed us to better understand the setting, the sports and cultural practices, as well as participants' relationship to the land and their self-understanding as Northerners. In addition, three (3) Mission staff and volunteers were interviewed to gain their perspective on the social and environmental sustainability goals of the AWG. We are most grateful to mission team members for their support in facilitating the interview process with participants and for assisting in the recruitment of Team/contingent participants. We also want to thank all the youths and adults that took part in the interviews despite a packed schedule and for so generously sharing their thoughts and experiences.

Interviews have provided us with data for qualitative analysis of experiences, understandings, and reflections on the purpose and practical execution of the Games. Hence, they efficiently complement the quantitative analysis of data, obtained primarily through survey.

An **online survey** (multiple choice, Likert scale and short answer questions) was distributed via email by the Host Society to participants (athletes and cultural performers) and mission team members (including coaches and all other volunteers) near the end of the Games (February 2, 2023) and after the Games (February 8, 2023) as well as a last time by various Chefs de Mission. The survey provided demographic, social and cultural data from participants and mission team members, as well as an understanding of the extent to which land and environmental concerns influence the experience of the Games.

The last survey answers were collected on February 20, 2023, after which access to the survey was closed. A total of 689 individuals responded to the survey with a completion rate of 67% and an average of 9m:41s spent to provide answers. The accumulation of such rich information would not have been possible without the help of the Host Society, including the contribution of Danielle LoBianco as well as the support of Palle Thygesen, the consultant responsible for participant registration data management.

Based on relevant research on large sports/youth events and previous Arctic Winter Games survey designs and analysis, our survey scores highly in terms of both reliability (consistency and stability of the data) and validity (accuracy of measurement), and the impressive response rate ensures a significant level of representativeness and, thus, generalisability to the entire participant population.

The survey provided data for quantitative analysis of experiences, understandings, and reflections on the purpose and practical execution of the Games. Hence, it efficiently complements the qualitative analysis of data obtained primarily through interviews. We focus in this report on highlighting differences in the frequency and type of answers among different groups of respondents.

1. This research also involved **ethnographic data collection**, primarily in the form of **participant observation**. This allowed us to experience the practical execution of the Games, the prevailing atmosphere as well as the sports, cultural and identity practices of the participants. An analysis grid identifying the categories of behaviour and the characteristics of the setting to be observed and described guided this data collection, including categories such as the physical environment (i.e. decorations, flags, recycling bins, signage for recycling/garbage disposal, type of containers and utensils used for meals), the ceremonies (e.g., symbols, guests of

honour, speeches, language, anthems and music), performances (e.g., choice of artists, choreography, types of music, song lyrics), spectators (e.g., audience size and composition, reaction to ceremonies and performances), sport competitions (e.g., formalization, level of competition, behavior of athletes, coaches and spectators), participants/athletes (behavior between performances/competitions). The observation grid also looked at cultural activities (pop-ups, 'Shine on the Snye', Village and Cultural Gala) and environmental sustainability issues (waste sorting systems, information and awareness-raising for participants and spectators, etc.). A summary of the observations is appended to the report (see Appendix 3 - Observations summary).

3. History of the Arctic Winter Games, With a Focus on Social and Environmental Sustainability

In the annals of Northern sports history, this is by now a familiar narrative: in 1967, against the backdrop of their participation in the Canada Winter Games held in Quebec City, two prominent figures, Cal Miller, the financial advisor to the Yukon Territory's team, and Stuart Hodgson, the Commissioner of the Northwest Territories, experienced a seminal moment of inspiration. This moment was spurred by their collective disappointment at witnessing the inherent disparities preventing Northern athletes from effectively competing with their counterparts hailing from the more populous southern regions (Paraschak, 1991). These disparities, notably rooted in resource limitations, demographic constraints, and the exorbitant costs associated with long-distance travel, prompted Miller and Hodgson to conceive an idea -- "the best idea since the invention of 7-Up" (AWGIC, 2020a: 5) -- that would eventually materialise into the first Arctic Winter Games in Yellowknife in 1970.

The idea turned out to be highly durable. Indeed, as the AWG concept has developed over that past five decades, it has come to offer a different approach to major sports gatherings, including the incorporation of cultural heritage and concerns about sustainability. In his 2022 general assessment, Fuchs argued that the unique sports event model that has been developed by the AWG, with its emphasis on social and cultural (yet still, to a lesser extent, environmental) sustainability, poses a highly relevant alternative to the (IOC inspired) standard model of international sporting events, suggesting, in fact, perspectives for its evolution (Fuchs, 2023).

3.1 Evolvement of AWG purposes

In its early years, this innovative competition, envisioned as organized and run by Northern residents for Northern residents, held the promise of affording participants from Canada's territories and Alaska the opportunity not only to partake in a multisport event but also to excel in their sporting endeavours (Hinchey, 2014e; AWGIC, 2020a: 5). From its inauguration, however, the mission appears to have extended beyond the mere facilitation of equitable competitive opportunities.

The original Letters Patent for the Arctic Winter Games from 18 January 1968 set out the following objectives: "(a) to provide, regularly, athletic competitions in northern regions; (b) to give sport opportunities at a level applicable to the north; (c) to develop a geographic identity; (d) to provide incentive for improvement; (e) to provide facilities for all this; (f) to create good relations through sport and cultural mediums; (g) to promote cultural activities in areas competing in the Games." (AWGIC, 2020a: 45)

The 1970 Yellowknife Arctic Winter Games Society information package combined these objectives into two overarching ones:

"Arctic Winter Games is the first attempt to assemble people representing the total North American arctic community in a single event. It is designed to further two objectives: first, to provide an opportunity and an incentive for northern athletes to improve their skills by competing in an international event against athletes of similar background and ability; second, to strengthen mutual understanding and friendship among the people of northern areas, and to foster good international relations through the media of sport and cultural activities." (Yellowknife AWG, 1970: 14)

Culture and sports thus become the vehicles through which to attain intercultural Arctic understanding and collective identity-building.

In the 2000s, the Arctic Winter Games International Committee (AWGIC) could be seen to have contained that core as well as broadened the mission: “The Games provide an opportunity to strengthen sport development in the participants’ jurisdictions, to promote the benefits of sport, to build partnerships, and to promote culture and values.” (AWGIC, 2018/2023a). The objectives as set out in the 1968 Letters Patent have generally been maintained till today. However, since 1975, the updated version has included a significant addition: “To promote and encourage indigenous cultural activities of such areas as from time to time shall compete in the games” (Board, 1975: 7; AWGIC, 2020a: 45).

The stated values – symbolized by the three interlocking rings of the Arctic Winter Games logo – differ slightly, depending on the source: the 2020 ‘50 Years of Arctic Winter Games’ anniversary booklet, e.g., states: “athletic competition, cultural exhibition and social interaction among Northerners” (AWGIC, 2020a: 1), while the 2020 ‘Policy Manual’ stipulates: “The Arctic Winter Games combine athletic competition, cultural exchange and social interaction among northern contingents” (AWGIC, 2020b: 4), also positing that: “The Games provide an opportunity to strengthen sport development in participating jurisdictions; to promote fair play, the benefits of sport and healthy lifestyles; to build partnerships; and to promote cultural diversity awareness and understanding.” (AWIC, 2020b: 1) As regards the ‘fourth value’ of fair play, since 1978 the Hodgson Trophy (named after Stuart Hodgson, one of the founders of AWG) has been awarded to the contingent “whose athletes best exemplify the ideals of fair play and team spirit” (AWGIC, 2020a: 40).

3.2 Social and cultural sustainability in the history of the Arctic Winter Games

The AWG mission thus seems to have evolved into what in contemporary terms is commonly referred to as social and cultural sustainability. In the years that have passed since the first AWG, the notion of ‘sustainability’ has gained traction, first in academic research, then in the mass media and in common parlour. Initially it was, and still to some extent is, associated with natural environmental protection, climate change impacts, etc., but also, increasingly, with a broader palette of sustainabilities, like social, economic, and cultural (see, e.g., United Nations, 1987; Petrov et al., 2016). It is very likely that many of the same qualities we today associate with processes of social sustainability would be well covered by the ‘social impact’ concerns that are so dominant in early AWGIC guidelines, analyses, and reports.

Considering how much emphasis the AWG Corporation from the late 1980s (Paraschak, 1991; AWGIC, 2020b) and, later, the AWG International Committee and local organizers placed upon the preservation and showcasing of local (Northern) culture and traditions, it is also safe to assume that much of what would today be considered cultural sustainability would be included in those early concerns. In a similar merging of closely related concepts, when in this report we refer to ‘social sustainability’, we include aspects which might, strictly speaking, in other contexts be more precisely described as ‘cultural sustainability’.

Observation 1, AWG2023: placement of cultural activities in the Arctic Winter Games: culture in the games or culture 'through' the games?

Although the AWG organising committee argues that the Games are both a sporting and a cultural event, our observations suggest that cultural activities do not have the same place as sporting activities in the organisation of the event. Sporting activities dominate the programme of the Games, and the delegations are primarily made up of athletes. Artists were in the minority and were not included in all the delegations. For example, there were no Greenlandic cultural representatives at the Games Cultural Gala. Similarly, cultural activities do not seem to have the same technical, logistical and organisational resources as sporting activities. Some pop-ups were cancelled without prior notice and when they were maintained, the performance venues and conditions were not always favourable to the artists. In another example, the Village on the Snye (made up of tipis and tents and dedicated to Indigenous cultures) was quite far from the practice sites and the local population, without benefiting from road signposting or effective communication about the event. Of course, the Gala is the highlight of the Games' cultural programme, and the artists prepare accordingly. But because of its unique and formal nature, this evening does not allow for the same kind of integration and interaction between the participants, especially as the audience seems to consist mainly of local guests, organisers and members of the international games committee. So, culture as a specific and autonomous activity was only marginally integrated into the design of the event. This raises the question of whether, in the minds of the organisers, the cultural dimension of the Games is linked to the presence of the Dene Games and Arctic Sports. In this sense, culture would be showcased primarily through Indigenous sporting activities, and only secondarily in the cultural programme of the event.

The Arctic Winter Games encompass various elements that can contribute positively to social sustainability in the region: community engagement and development (through, e.g., sector collaboration, organizational capacity-building, and volunteering), cultural preservation and confidence (e.g., in the form of celebration and communication of Indigenous cultures and values), youth development, health and well-being (promoting, e.g., physical and cultural activity, experience with different/larger communities, leadership skills), social inclusion (through, e.g., a sense of belonging, tolerance and respect of diversity), international and intercultural recognition and collaboration (by way of friendly exchange across cultures, languages and nationalities, celebration of common Northern/Arctic heritage), improved standards of living (through, e.g., local economic, infrastructural development, tourism destination development). Most of these elements are captured in the concluding remarks of the AWGIC (2004-2020) 'About' document: "The Arctic Winter Games promote an atmosphere of social interaction that strengthens cultural awareness and understanding, increases community pride, enhances self-esteem and promotes volunteerism. The Games also help develop stronger economic, political and social ties and provide international exposure to the community in which they are hosted" (AWGIC, 2018/2023c). These different areas have, however, developed gradually and been given different emphasis during the history of the games.

3.2.1 Indigeneity and Northern identity

Developing and sustaining a common Northern/Arctic collective social identity was an aspect of the AWG mission from its inauguration. The Yellowknife 1970 hosts mused: "[W]ith snow, isolation, and a frontier situation as common denominators, perhaps a sense of community – of geographic identity – can evolve in this vast expanse. This is the challenge of Arctic Winter Games." (Yellowknife AWG, 1970: 14)

In 1997, Paraschak argued that “the structuring of the Arctic Winter Games has been premised on a eurocanadian-derived conception of sport” (Paraschak, 1997:9). However, the addition of Inuit Games (1974; renamed ‘Arctic Sports’ in 2002/4) and the 1975 Letters Patent focus on promoting and encouraging “indigenous cultural activities” (Board, 1975: 7), suggest that the AWGIC attempted to integrate Indigenous and non-Indigenous sport cultures under a single competitive umbrella, while also embracing the purpose of sustaining Arctic cultural heritage. This purpose was further emphasized with the addition of a program of cultural performances, with representatives from all participating contingents in 1980, fully established in the Fairbanks games in 1982 (AWGIC, 2020a: 11).

Hence, both cultural sustainability and Indigenous games were considered relevant to the games – and to begin with, equated very closely. The 1970 Yellowknife information package, e.g., describes the relationship:

“North of sixty the culture is rich and varied. Yet the richness is little told. Arctic Winter Games will sample this richness, and the sampling will provide the most unique and distinctively northern element of the Games. Traditional Indian and Eskimo games, little known in the south and in danger of being forgotten in many parts of the north will provide a counterpoint to the competitive athletic events. The high kick, the blanket toss, and alluniartaq -- acrobatic exhibitions on a stretched thong [...] these recreations and more, still remembered in holiday festivals in the smaller communities, will be part of Arctic Winter Games [...]. It is hoped that a good degree of spectator participation will be achieved [...]” (Yellowknife AWG, 1970: 17; emphasis added)

Whereas, initially, Indigenous sports were ‘confined’ to expressions of cultural heritage, rather than ‘legitimate’ sports, this would change in the late 1980s. At a pivotal meeting in Dawson City, Yukon, on 25th of August 1988, AWGIC and various government partners agreed to reshape the games. The meeting resulted in significant continued government financial support along with an AWGIC commitment to including Indigenous cultural events and unique Indigenous sports events: Arctic Sports and (as a new entry) Dene Games (AWGIC, 2020a: 13).

At about the same time, what can be termed a ‘pan-Arctic’ vision of inclusion of contingents from across the region and cultural exchange beyond North America developed: invitations were extended to Greenland (which joined the games in 1990) and Northern Quebec (Nunavik joined in 2002), and in a movement of rapprochement at the end of the Cold War, Russia was invited to send participants (AWGIC, 2020a: 13). This resulted in participation from the Russian oblasts Magadan and Tyumen in 1994, and later from Chukotka and Yamal. The Sámi of Northern Scandinavia (Sápmi) joined for the first time in 2004.

Since then, there has been a clear notion of an AWG purpose of pan-Arctic regional identity-building among Northerners across the region (Thomsen et al., 2018). It is evidenced, e.g., by the many AWG theme songs addressing a common Arctic spirit: ‘Hands Across the North’ (1988); ‘Hand in Hand’ (1996), ‘Seize the Spirit’ (2000), ‘Feel the Spirit’ (2004), ‘Release the Spirit’ (2006), and ‘We Are The Arctic’ (2016) (AWGIC, 2023b).

Observation 2, AWG2023. Social sustainability through the prism of a common and recognised Nordic and Arctic identity.

Understood as contributing to the construction of a common identity, social sustainability emerges both in official discourse and in informal practices. Firstly, this dimension is linked to the recognition of Indigenous rights. During the official ceremonies (notably the opening and closing ceremonies), the

speeches emphasised "recognition of ancestral lands" and highlighted the policies of reparation towards the Indigenous communities.

All eight editions of the Ulu News (the AWG's official newspaper during the Games) feature on the front page the 'Treaty and Land Acknowledgment' written in English, Dene and Cree. This text, signed by the host company of the Games, refers to Treaty 8, which recognises the ancestral and traditional lands of the Cree, Dene and Métis peoples. The treaty ends with "As long as the sun shines, the river flows and the grass grows, we will honour these lands", a phrase uttered many times during the AWG2023. It highlights the importance of the cultural and natural living environment of the Indigenous peoples and thus contributes to the social sustainability of the games, based on the recognition of traditions and ancestral lands, understood as a common objective of all participants in the games.

Finally, social sustainability is expressed through the general aims of the games and through an organisation that tries to encourage interaction, meetings and exchanges between participants in all their diversity (the widespread practice of exchanging pins is a good example of spontaneous and informal interaction). In this way, the games are an opportunity to bring together many different customs, different languages and traditional sports specific to the North and the Arctic. In this sense, it appears that the event helps children and teenagers living in isolated and specific environments to be part of teams and to compete in a setting that is both exceptional and reassuring.

3.3 Environmental sustainability in the history of the Arctic Winter Games

The Arctic Winter Games typically take place in ecologically sensitive environments, and through an emphasis on stewardship and responsibility towards the environment, they have an opportunity to promote sustainable practices, which are critical for the well-being of local communities.

Our archival research shows that for the first many years of AWG existence, environmental sustainability was hardly considered (as opposed to social and cultural sustainability, which was at the forefront of stated purposes from the earliest stages). For example, in the AWG Yukon archives, searches for terms like 'environment' and 'nature' result in no hits whatsoever. Environmental sustainability initiatives can be seen to have slowly increased, however, since the 1990s in relation to, e.g., food and transportation systems. Nevertheless, these are initiatives, which have not been evaluated by associated researchers or, as far as AWG archives let us know, others.

Through the 2000s, the AWGIC and several of the host societies increased efforts to make the games environmentally sustainable. Particularly the 2002, 2004, 2012, 2014, 2016, 2018, 2020, and 2023 games implemented initiatives, such as eco-friendly food and waste reduction systems, the provision of public transportation between venues, energy efficiency management, waste management (incl. recycling, composting) and environmental education. Some host societies (2004, 2012, 2014, 2020 and 2023) also established separate committees with a specific environmental focus. Whereas the 2006 Alaska and 2010 Alberta games saw very little dedication to environmental sustainability, the more recent games hosted in Alaska (2014) and Alberta (2023) had a markedly increased focus on this.

Generally, environmental sustainability efforts have been concentrated in the areas of sustainable waste management, transportation management, and education and awareness. In contrast, the natural environment and ecosystems and energy management have received relatively little attention, with only the AWG 2020 and 2023 with significant initiatives in this area.

It is evident that around 2020 there were plans to develop a comprehensive AWGIC (environmental) Sustainability Plan. The 2020 'Bid Manual', e.g., stipulates: "Environmental Services: The Host Society is encouraged to strive towards making the Arctic Winter Games sustainable according to the

Sustainability Plan adopted by the AWGIC and included in the Staging Manual.” (AWGIC, 2020c: 21). The development of the plan, however, was derailed by Covid-19 and processes in which the AWGIC changed staff and directors.

Nevertheless, what we can observe is a progressive development and active implementation of initiatives regarding environmental sustainability throughout the 2000s, with the AWG 2020 in Whitehorse, Yukon (had they materialized), by far the more environmentally concerned Games. Unfortunately, as they were cancelled due to the global Covid-19 pandemic, the many initiatives were never carried out in practice. The Alaskan Mat-Su Borough (2024) AWG organisers have also finalized a ‘Sustainability Plan’, showing that this is tending to become a mandatory step in the process of hosting the Games.

Observation 3, AWG2023. Environmental sustainability, a discrete cause?

While during the games, social sustainability emerges both in discourse and in practice, it is more difficult to observe the same dynamic with regard to environmental sustainability. Very often, this dimension is confused with the recognition of Indigenous cultures and traditional practices, the latter being intimately linked to their natural environment. For example, the AWG 2023 song evokes elements of nature: "We're gonna fly like the Eagle, Soar over the valley", and "Like the mighty river, Under the Shimmering skies". The notion of the environment appears above all in terms of respect for native lands, while respect for nature (carbon impacts, waste, environmental impacts, resources, etc.) does not seem to appear directly. In terms of environmental sustainability, the main feature was the installation of waste sorting bins at almost all the Games sites (some sites did not have them, such as the alpine skiing site, which suggests that this system was not systematically imposed). These facilities were probably built for the event, as the AWG 2023 logo and date can be seen on them. Having said that, we also observed a number of practices that could be improved in terms of environmental sustainability: goodies made from non-recyclable materials, imported and over-packaged food, frequent use of fuel-intensive generators and heaters throughout the event (and particularly during the activities of the Village on the Snye). These observations are not intended to be prescriptive or moralising. The issue of environmental sustainability cannot be understood without taking into account the climatic, geographical, economic and cultural context of Northern Alberta. The technical and logistical solutions chosen are those that meet the challenges imposed by the remoteness of the practice and accommodation sites. In other words, before integrating environmental issues, the Arctic Games must guarantee their own organisational sustainability.

3.4 Previous reports and evaluations

Since 1972, all host societies have evaluated their games in the form of a report to the AWGIC. Mostly, such reports have focused on organisational, logistical/infrastructural and funding issues, as well as media coverage, and have thus provided valuable practical experience and recommendations for future games. Other evaluations with a larger focus on the fulfilment of purpose and objectives have also been carried out, however.

An ‘historical review’ of the first three games was carried out by the AWG Corporation’s Board of Directors itself, presumably in 1975 (n.d.). It describes the objectives of the AWG Corporation thus: “to develop northern athletes so they could participate without embarrassment [sic] in national and international competition and to promote cultural interchange amongst peoples of the North. In addition, the Arctic Winter Games were to provide a vehicle for education, understanding and friendship amongst all of the peoples of the North on the North American continent” (Board, 1975: 5b). Unsurprisingly, the review – which doubles as an application for continued funding from the

Canadian Federal Government's Department of National Health and Welfare – found that the games had been successful in achieving this (Board, 1975). The second such analysis of the AWG – 1978-1982 games – was carried out by urban planning consultants from Calgary (Makale & Kylo, 1982). Although the 93-page report recommends a more vigorous sports selection process (p. 84) and that the cultural component of the games be organisationally strengthened (p. 90), it concludes very positively that the AWG “are truly unique and a credit to all responsible [and] an unqualified success” (pp. 83, 93), and that the first three games have fulfilled all the objectives set out in the Letters Patent. Emphasising cultural and social benefits as well as financial responsibility, like the first review, this one strongly recommends that government financial support be continued (p. 93).

Commissioned by the AWGIC (AWG, 2020: 16), two series of primarily quantitative social impact assessments were carried out 1998-2002 (Yellowknife, Whitehorse, Iqaluit/Nuuk) and 2010-2014 (Grand Prairie, Whitehorse, Fairbanks) by and under the direction of Dr Samuel V. Lankford, University of Northern Iowa. However, only the second series was expanded to include participants from all contingents – the initial study collected data only from English-speaking participants from the Northwest Territories (Lankford et al., 2014: 10). The assessments provided similar conclusions: “Overall, the findings of this study are very encouraging and give a strong rationale for the continued development, advancement, and support for the [Arctic Winter Games]” (Lankford et al., 1998, 2000, 2002, 2010, 2012, 2014).

Limited information about sample size, response rates of different populations of respondents, etc., is provided and none of the reports included feedback from volunteers, coaches or contingent staff, *in-situ* observations or in-depth interviews. However, from the six survey studies it would appear that respondents relate experiences that connect closely with social and cultural sustainability. Participants generally found the games a great opportunity to develop their skills by competing in an encouraging environment with equal level competitors, to experience intercultural exchange, exhibit their own culture and become role models in their home communities (Lankford et al., 1998, 2000, 2002, 2010, 2012, 2014).

In their evaluation of the Nuuk 2016 Games, ‘Valuation and Outcomes in the Arctic Winter Games 2016’, Ren et al. considered local (host society) ‘event overflows’, with a focus on social cohesion, branding and upskilling. Upon surveying different stakeholder groups (sponsors, volunteers, participants, visitors and residents) they reported significant added value in all the three areas, significantly as a consequence of large-scale volunteering (Ren et al., 2016). According to the AWG 50-year anniversary booklet, between 1651 and 2489 local volunteers engaged in the Games from 2008 to 2018 (AWGIC, 2020a: 39).

4. General Results of Participants and Mission team members survey responses, with selected interview excerpts and other relevant data

4.1. Description of the survey respondents

The first question concerned the respondents' Team affiliation. We noted a numerically low number of respondents from the Sápmi (n = 14) and Nunavik (n = 27) Teams/contingents, but this is relative to the size of the contingent (see 4 - Survey responses by team).

The second question showed that most of our respondents were female (55% vs. 43%, with 2% choosing a different option) (see Appendix 5 - Survey responses overview). Among the various analyzed, we noted that among respondents, more females were cultural performers (74% vs. 56% of athletes) (see Appendix 6 - Survey responses by sport vs cultural discipline with participant comments), and fewer were involved in traditional sports (44% vs. 66% in other sports) (see Appendix 7 - Survey responses by sport discipline with participant comments and Appendix 8 - Survey responses by sport discipline). Amongst mission team members an almost equal number of females (51%) and males (49%) completed the survey (see Appendix 9 - Survey responses by participant vs mission team member).

In terms of age, most of the respondents were minors, although 30% were between 30 and 60. It is important to note that 95% of participants were under 25 years old, while 92% of organizers were over 26 years old. Another point to note is that those participating in the traditional sports (Arctic Sports and Dene Games) were older on average than sportsmen and women involved in mainstream sports (all others): 39% over the age of 19, compared with 8% of other sportsmen and women. Cultural performers were often slightly older than sportsmen and women (see Appendix 10 - Survey responses by cultural discipline with participant comments and Appendix 11 - Survey responses by cultural discipline with participant comments 2).

In addition to characterizing respondents, questions 3, 6, 7 and 8 are used to distinguish among different groups of respondents. Question 3 shows that 62% of respondents were participants and 38% were mission team members. Question 6 informs us that 95% of participants are athletes and 5% are cultural performers. Questions 7 & 8 enable us to identify the sports or cultural/artistic disciplines in which participants are enrolled, and then to create the traditional sports group and the mainstream sports group. We thus observed that 85% of responding athletes were involved in mainstream sports, while 15% were enrolled in traditional sports.

4.2. General questions on motivation

Questions 9/12/13. Motivation

Questions 9, 12 & 13 of the questionnaire are designed to highlight the reasons why respondents wished to participate in the AWG. Depending on the group observed, we noticed differences in the most frequent answers.

For mission team members, the first reason was to support young athletes (87%), and the second was to support their Team/contingent (64%). Conversely, among participants, the two main reasons are to develop as an athlete/artist (69%) and to have fun (66%).

Interview participants provided similar answers. Most of them wanted to go to the AWG to gain experience or compete in their sport. Some also mentioned that they wanted to represent their Team/contingent and wished to meet new people. A few participants also appreciated the opportunity to travel and discover a new community.

We really wanted to represent Alberta North. We thought we'd be a good team as selection. All of us are very social people and we like interacting with many people. So, the idea that we could come together and meet so many individuals from different countries and everything seems like a great opportunity. (Female dancer from Alberta North, 16 yrs old, C#7)

The participant in the previous excerpt explained only learning about the AWG in the previous year. Based on what she heard from her team director and choreographer about the games, she thought it would be a good opportunity to meet a variety of new people.

Yeah, I was selected, and you get a lot of gear, which is really cool. You meet a lot of people, which is cool. You get to do fun races and stuff, and compete, and it's just a really fun experience to travel somewhere else for a week too. I enjoy that part. (Male cross-country skier from Yukon, 16 yrs old, J#5)

This athlete from Yukon wanted to meet a lot of new people. It was his second participation at the games, but at the 2018 edition, the athletes and competitions were separated in different towns, so it was harder to meet new friends across all the sports. While he enjoyed his last experience, he felt like he could exchange and fraternize with a greater number of participants at the 2023 edition of the games.

Well, I wanted to get the experience. I never came here before. I also tried out for hockey. I was a first alternate, but no one had anything wrong with them, so I just came as a performer to get the experience and get away from the NWT. (Male dancer from NWT 1, 16 yrs old, C#3)

This dancer from NWT really wanted to experience the games. After failing to be selected for his favorite sport, he chose to participate in the cultural component of the contingent since he was already part of a traditional dance troupe. His primary motivations were to meet other people and have fun, regardless of the sport or activity he took part in.

Back to survey results, among participants, athletes were more likely to want to have fun (66% vs. 50% of cultural performers). Nevertheless, all participants wanted to develop in their discipline (72% of cultural performers and 68% of athletes), and significantly more cultural performers were encouraged/recruited by their Team to get involved (61% vs. 38%). There is no real difference between mainstream and traditional sportsmen and women, or even between sporting disciplines, when it comes to motivation to take part in the AWG.

Youths taking part at the *Jeux de la francophonie* shared the same reasons to participate in the event, but having fun had precedence over reasons related to their sport or cultural discipline and they also further highlighted the Francophone character of the event as motivation for involvement (Dallaire et al., 2010; Forgues et al., 2018). While AWG participants did not focus on the Northern dimension of the AWG in their survey answers to this question or in explaining why they wanted to participate in interviews, they did refer to it when describing the AWG and discussing what they enjoyed about the games, as shown below.

Questions 14/15. First participation

Questions 14 & 15 show that this was the first AWG for 70% of respondents. However, these figures do not reflect the significant difference between mission team members and participants. Indeed, among mission team members, 44% returned for several editions, and have done so on average more than 4 times.

Similarly, there is a disparity within sporting disciplines: traditional sports seem to have a higher number of athletes who have already participated in other editions (32% of Arctic Sports athletes and 23% of Dene Games athletes vs. 12% athletes from other sports), which is not surprising since these disciplines allow participation of athletes 18 years old and above (see Appendix 12 - Survey responses Arctic Sports vs Dene Games and Survey responses all athletes expect Arctic Sports and Dene Games). Conversely, there is no difference between athletes and cultural performers.

Most interview participants were taking part in the AWG for the first time with a few having participated once before. Only one traditional sport athlete interviewed had taken part in multiple editions of the AWG.

Differences among respondent answers: There are clear differences between the 'mission team members' and the 'participants', both in terms of motivations and experience at the Games.

4.3. Goals of participants

The participant registration data offers information about the goals of participants. Indeed, before the Games, the participants were asked to describe their 'goals for the games' on the AWG 2023 website. Responses to this open-ended question varied in length, ranging from brief statements like "Score goals" to more elaborate explanations such as "Mainly have fun with family, teammates, and coaches, make new friends. Enjoy all the new experiences I will have and give the best of my abilities to help my team/territory". However, some participants did not complete 'My goals for the games' question. As a result, we collected a total of 758 complete responses for goals, comprising 415 males, 342 females, and one respondent who preferred not to identify. The represented contingents included Alberta North (N=212), Alaska (N=167), Yukon (N=137), Nunavut (N=126), Northwest Territories (N=105), and Sápmi. (N=11).

Analyzing the participation goals for the AWG provides insight regarding the significance of the sporting dimension for the participants³. The surfacing and the nature of these objectives as described by the participants of the Arctic Winter Games have therefore drawn our attention. Out of the 758 participants, 1 801 objectives were identified. We employed an inductive approach, wherein we grouped elements with similar lexical fields. We thus identified three themes:

- **Experience-related goals:** these objectives were mainly linked with pleasure, learning and discovery (for example: "My goals for the games are to have fun!"; "Learn new things from different people"; "Compete against players outside of Alberta").

³ Amongst other issues, we were interested in the concept of 'athletic identity', defined as the degree to which an individual identifies with the athlete role (Brewer & al., 1993). Athletic identity is reflected in the dedication to specific sports routines, which entail a commitment to the demands of practices, training sessions, and matches, where athletes strive to achieve or exceed individual and collective objectives (Newton & al., 2020).

- **Performance-related goals:** here, the goals were associated with results, effort and progress (for example: “To win.”; “My goals are to improve as a player”; “My goals are to play as hard as I can”).
- **Relational-related goals:** These goals were centered on social aspects, including making friends and supporting teammates (for example: “I would like to meet other athletes from other countries”; “It’s really important to me to support my team”).

This gave us an overall view of the participants’ goals for the Games, revealing a predominant emphasis on performance (49.25%), rather than experience (32.98%) or relational aspects (17.77%) (Table 2).

Table 2. Categorization of participants’ goals (n = 1801) for the 2023 Arctic Winter Games

Performance (49.25%)	Experience (32.98%)	Relational (17.77%)
Individual Efforts (35.1%)	Pleasure (49.7%)	Sociability with other youth/people (53.4%)
Individuals result (29.5%)	Opportunity (20.7%)	Sociability with other people/athletes from other places (15.3%)
Individual Progress (13.0%)	Competitive dimension (8.1%)	Attachment to the contingent/home / sport (12.2%)
Collective efforts in relation to the team (8.8%)	International dimension (3.5%)	Support (7.8%)
Collective efforts in relation to the contingent (5.3%)	Creating memories (3.5%)	Sociability with other athletes/artists (6.6%)
Collective results related to the team (4.1%)	Learning with others (3.2%)	Recognition of own social environment (3.1%)
Collective results related to the contingent (1.7%)	Learning about oneself (2.9%)	Recognition at AWG (1.6%)
Emotion management (1.6%)	Culture (2.7%)	
Collective progress (0.9%)	Sport (2.5%)	
	Team dimension (1.7%)	
	Material exchange (1.5%)	

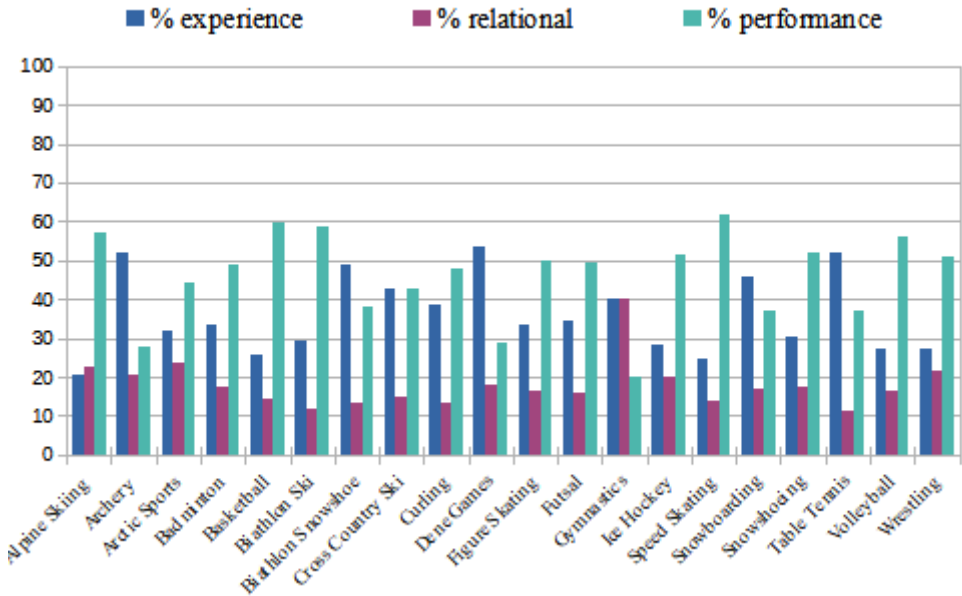
These results are consistent with the analysis of responses from the survey and interviews, where participants primarily explained their attendance at the AWG for the sports dimension but also highlight social interactions and discoveries. These three themes also resonate with findings in other studies of youth sports event. For example, participant experiences at the Youth Olympic Games (YOG) revealed the important dimensions of athletic development (the significance of sports achievements), social environment (perceived support from family, friends, and coaches, as well as forming new friendships), and learning environment (athlete perspectives regarding their trajectories and places) (Macintosh et al., 2022). These various themes are also found in the motivations of youth participants at the *Jeux franco-ontariens*, where they notably mentioned “pleasure”, “for the components/sport, skills/learning”, and “meeting, following, or reconnecting with friends” (Dallaire, 2004). Interestingly, these three themes also emerge when athletes narrate their lives as sportsmen and sportswomen, either focusing on achieving results, winning, and being the best (performance narrative), or the need to explore and discover new playing fields and places (discovery narrative), or the impact of relationships (relational narrative) (Douglas and Carless, 2006).

As in most of these studies, the AWG participants formulated a predominance of performance-related goals. Participants come to the Games primarily to perform and achieve sporting results (like winning a medal, achieving a ranking, or breaking a record) or to give one’s best in order to succeed (as shown by formulations such as “To perform my best” ; “To race to the best of my ability”; “To give it my all in every game”; “To play my hardest”, etc.). A significant portion of the performance objectives (20.9%) demonstrated a collective dimension, emphasizing the importance of the sports team (e.g.: “My goal is to win matches together with my teammates”) or the contingent (e.g.: “representing Alaska the best way I know how”). This could highlight a profound connection to the people in a shared geographical

region, with athletes specifying their desire to achieve victory or to effectively represent a particular country, territory/province/state or community.

Overall, among the twenty different sports, there seems to be a predominance of performance-related goals as we can see in Figure 1.

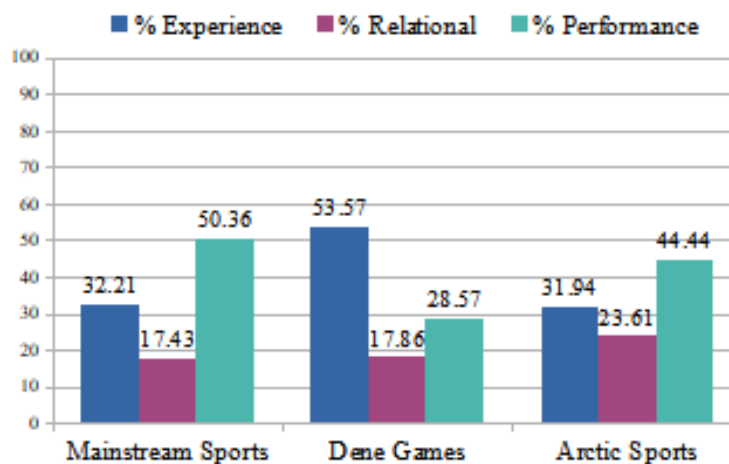
Figure 1. Distribution of goal types among 2023 AWG participants across all sports.



Here, the analysis of the press coverage (see Appendix 1 - Press release synthesis) leads to an interesting observation. While the athletes focus on sports performance, the media reports emphasize the cultural and social goals of the Games. For instance, a quantitative assessment of the type of photos published shows that they mainly portray community and social interaction (59% of the articles), secondly sport performance (36%) and thirdly traditions and culture (31%). Indeed, the photos highlight the shared moments between participants. Athletes laughing together, gathered around a sporting terrain to support a peer, athletes from different delegations mixing and standing amongst each other: these are the kind of images that represent a Games atmosphere of friendship and joy. There appears to be a gap between what the participants declare is most important to them (sport performance) and what the journalists want to emphasize, more focused on socialization, sharing or building communities. It is difficult to gauge whether the media takes on a more 'adult' perspective prioritizing the youth development dimension of the Games or whether it focuses on the distinguishing feature of the AWG, that is the camaraderie, and social exchanges as well as the unique traditional sports, compared to other sport events.

However, when we look at the different types of sport, for example between the traditional sports (Dene Games and Arctic Sports) and mainstream sports, we observe some differences in the distribution of objectives (see Figure 2).

Figure 2. Distribution of goal types among 2023 AWG participants by sport types.



There are more performance-oriented goals for the Mainstream Sport athletes (50.36%), which is similar to the studies previously mentioned with athletes from the YOG focusing on athletic development (Macintosh & al., 2022) and among elite and professional athletes in various sports where a performance narrative appears to be dominant (Carless & Douglas, 2009 ; Carless & Douglas, 2013 ; Douglas & Carless, 2006 ; Douglas & Carless, 2009 ; Ryba & al., 2015).

Interestingly, we found that Dene Games participants formulated more experience-related goals (53,57%) than performance (28,57%) or relationship-related ones (17,86%). Indeed, they talked a lot about “having fun” and also mentioned the desire to experience new things (such as “I’d love to try new food!” or “learn about other cultures”). We could explain this result by considering that participants in these practices, which are immersed in a social and cultural system that prioritizes cooperation, values the process over the outcome, and emphasizes inclusion rather than the distinction between winners and losers (Paraschak & Heine, 2019). Consequently, they approach the AWG in terms of the experience that this event could offer them, even if the competitive and sporting dimensions are not absent. Most participants in the Dene Games appear to attend the Games to primarily experience and engage in sports as a cultural and social learning practice, secondarily with the purpose of individual performance and competition. This can be exemplified with this quote:

We all want to play to the best we can. And the only way we can do that is if we help each other and we show each other all these different skills and tricks we learned along the way. Because a lot of this knowledge and stuff that is passed along with these teachings and these games are passed on through word of mouth. We pass them on from person to person. That’s kind of one of the key values of the Dene and Native cultures. (Male Dene Games athlete from NWT, R#7)

This Dene Games participant explained in detail in his interview why the sense of community and camaraderie is crucial in the traditional sports. He was even emotional when he talked about the significance of Dene Games in his life, and how, in his community, the skills developed in the Dene Games are used in their everyday tasks. He underlined the need to help each other in his culture, and that all the Dene Games athletes support each other to become better. So, even though they want to be the best, they also want their competitor to be the best they possibly can.

There is a relatively high focus on performance-oriented objectives (44.44%) among Arctic Sports athletes compared to those centered around experience (31.94%) or relational aspects (23.61%). These goals predominantly revolve around individual achievements, progress or effort such as “Aim to score new personal records in one-foot-high kick, triple jump, kneel jump”; “To soak in newly collected knowledge about new techniques to improve my performance”; “To try my best”. This predominance

of a desire to perform could perhaps be explained by Arctic Sports more closely sharing characteristics with contemporary sports (Heine, 2005). This is an interesting distinction between Dene Games and Arctic Sports. Furthermore, we might also attribute this prevalence to the integration of this discipline within an event such as the AWG, where the practices are structured by a competition schedule, there is a pronounced emphasis on "victory," the aspiration to win an Ulu medal, the pursuit of record-breaking achievements, etc. (Hanson et Randazzo, 2012). However, interestingly, the Arctic Sports participants also formulated more relational-related goals (23,61%) than mainstream sports (17,43%) and even Dene Games (17,86%). As an illustration, one participant expressed the intention to "[f]oster relationships with fellow athletes to strengthen the community of Arctic Sports", which may underscore the aspiration to preserve, and perpetuate Arctic/Inuit traditions and cultural values through interpersonal exchanges. The relational aspect, characterized by social interaction and support from teammates, appears to hold significance for participants in Arctic Sports. Another participant explains: "Coming together and the camaraderie amongst 'competitors' is the best of all", echoing Heine's (2005) observation that "*competing athletes, coaches from all participating teams, and even elders, all of whom willingly offer guidance on enhancing skill execution*" during these Games. This could emphasize the reconfiguration of these practices within the framework of the Arctic Winter Games, simultaneously placing an emphasis on performance (akin to mainstream sports) while also highlighting the significance of cooperation and exchanges (which fits with the way Inuit traditional sports are played).

Observation 4, AWG2023. Sport and competition, but also play and sharing.

Our observations show that the relationship between performance and competitiveness differs from one sport to another. Curling, hockey, futsal, volleyball, figure skating and archery are all characterised by a strong competitive commitment on the part of the participants. Competition and the importance attached to the final result are very strong, and there is no ostentatious demonstration of fair-play or adaptation of the level of play in the event of very significant discrepancies. As a result, the losing teams clearly show their disappointment at the end of the games. However, we did not observe any intense antagonism, as aggression or the expression of excessive frustration seem to be a very minor part of the culture of the Games. Other 'classic' sports, such as downhill skiing, snowboarding, badminton and table tennis, are divided between the quest for performance and a calm, collaborative and benevolent atmosphere between the athletes, who encourage and advise each other.

Arctic Sports and the Dene Games are a category apart in terms of atmosphere. With regard to organisation and atmosphere, Arctic Sports are performance-oriented, but without excessive competitiveness and even less aggression or antagonism than observed generally. On the contrary, encouragement and advice come first and foremost from competitors, coaches and officials. This collaborative and participatory atmosphere is specific to Arctic Sports and we see a kind of shared construction of individual performance. The Dene Games are similar to Arctic Sports in the positive interaction and encouragement frequently expressed between participants. However, they are distinguished from other practices by the cultural and playful dimension of the activities, even if the notion of performance is not absent. Hand games, for example, leave a great deal of room for play, playful and mischievous confrontation, chance and guesswork.

Differences among respondent answers: Analysis of participants' goals of the 2023 AWG can give us a glimpse of the participants' athletic identity, with a predominance of performance-related goals, processes involving the re-evaluation of the sporting aspect within traditional sports and a

strong attachment to the land and communities that could be linked to the particular context of the Arctic.

4.4. General questions on satisfaction

Questions 45/46. Uniqueness of the AWG

Questions 45/46 ask whether the AWG are different from other sporting events in which respondents have taken part, and why. Overall, 70% of respondents said that the Games were different from other events. If we remove the answers of respondents who have never taken part in another event of this scale (more numerous among participants than mission team members), we find no difference between the mission team group and participants. Furthermore, it is impossible to make comparisons between athletes and cultural performers, as too few of the latter have already taken part in other events of the same scale. Among sportsmen and women, however, there is a difference: fewer traditional sportsmen and women consider the AWG different from other events (70% vs. 88%). This is, however, in contrast to how the AWG were described as a premier event by a seasoned Arctic Sports athlete in an interview.

But this is the premier event. This is the equivalent of, I guess, what basketball players dream about the NBA. This is what our Arctic Sports or traditional games players dream of is Arctic Winter Games. This is the premier event because we don't see this international showing at any other event (Male Arctic Sports athlete from Alaska, R#6)

He explained that traditional sports athletes from everywhere are competing at the AWG. He also noted that while there are many other events with more participants than the AWG, most of which hail from Alaska, they lack the same level of international representation. He described the AWG as the premier event because it is the only event that gathers the best traditional sports athletes from everywhere in the Arctic.

There was no notable difference between Teams/contingents or sporting disciplines in survey answers, but some nuances emerged in the interviews. In fact, most participants we spoke with considered the AWG as different from other sporting events, but the reason differed from contingent to contingent or sport to sport. For some, the AWG were their time to shine and win.

There are fewer people doing the biathlon at the AWG than at the Canada Games or the Nationals. [...] Personally, I think it's a lower caliber than the Canada Games or the Nationals. (Female biathlon athlete from Yukon, CA#1)

This biathlon athlete competes regularly at national events, which are highly competitive. The sport she practices is more developed in the Yukon compared to other AWG contingents. Therefore, the AWG present an opportunity for her to win because of the presumed lower level of competition than she is accustomed to.

So, of course it's also cool. Of course, it's cool. But it's not that great to have a match where you just feel like it's really unequal. Where you just like... They get 0 to 3 points in a match. It's just a little... Well, okay. I think it's way more cool to play against Alberta. Because we also get to move a little. Like, I haven't really been allowed to move. I'm just like... Well, of course I'm

always ready. I'm always ready for a ball. But I haven't been allowed to do my best. I haven't been allowed... (Female badminton athlete from Greenland, 16 yrs old, R#5).

Similarly, to the previous biathlon athlete, this badminton athlete felt there that most of her matches lacked challenge. Additionally, she noted that athletes in some Teams had only been playing badminton for a few months. Conversely, two badminton athletes from Nunavut admitted in an interview that they had anticipated lower competition levels. However, they were surprised by the advanced talent of their opponents. Evidently, for some athletes, the AWG offered a high level of competition and a chance to compete against better athletes.

To the question 'Why do you think AWG are different from other events', the following themes were recurrent, ranked by frequency of appearance amongst all participants:

- Their size: often larger than other events in terms of the number of athletes, disciplines, or length of competition.
- The social aspect: meeting other people, making new friends, a fair-play atmosphere where everyone cheers each other on.
- The cultural side: discovering new cultures, cultural exchanges, cultural performances.
- Unique openness to the people of the North.

Among mission team members, this frequency of appearance is slightly different: first we find the cultural side, then the social side, then the openness to the North and finally the size of the event.

Questions 47/48/49. Satisfaction: respect, cultural aspect, transportation, and host territory

Questions 47, 48 & 49 are designed to measure the satisfaction of AWG participants.

The comments in question 47, highlight the higher frequency of some themes amongst all responses:

- People and encounters
- Sport, a specific discipline, competition, and the idea of surpassing oneself
- The community aspect
- New cultures and exchanges
- Representing the North and its culture
- The opportunity for young people to play sport and meet each other

While the last four points appear more frequently in mission team members answers, the first two are more popular among participants. For instance, two interview participants summarized their positive experience as:

What I liked mostly about the Games was getting to compete and perform in front of people, but then I've also liked meeting new people and performing and going to new places. (Female figure skater from Yukon 1, 13 yrs old, C#6)

I've liked meeting new people, getting this opportunity to have a really fun experience here and competing against people that I've never competed against before and getting to just experience all those laughs, fun times, memories, making lots of new memories and will forever remember it. (Female figure skater from Yukon 2, 13 yrs old, C#6)

They both explained that their competitors, while talented, were mostly at Games to have fun. The two girls mentioned that most participants in figure skating wanted to socialize, and not

necessarily win at all costs. Other athletes from a variety of sports emphasized this as well, including this futsal player:

The competitive and just happiness because even during the games, after you've lost a game or you've won a game, everyone's pretty respectful. Like they're saying good job and they're not putting you down as much. (Male futsal player from Nunavut 3, 15 yrs old, C#1)

Perhaps that can be explained by the fact that athletes work hard to get a chance to compete at the Games, because team selection is a challenging hurdle in many sports and Teams. Once selected, they want to enjoy the AWG as much as they can.

Interview participants also discussed the community dimension of the AWG. A traditional athlete emphasized the significance of the sense of community, noting that while they all strive to win and excel, they also share their tips with their competitors. They all help each other to become better at the sport.

Well, yeah, like these games are supposed to represent a sense of community. Like everybody's coming together. Like these guys are all my family. We're all coming together here to enjoy the games. We all want to compete. We all have to have fun. We all want to play to the best we can. And the only way we can do that is if we help each other and we show each other all these different skills and tricks we learned along the way. Because a lot of this knowledge and stuff that is passed along with these teachings and these games are passed on through word of mouth. We pass them on from person to person. That's kind of one of the key values of the Dene and Native cultures (Male Dene Games athlete from NWT, R#7)

Unlike athletes in traditional sports, those in mainstream sports do not typically share tips and strategies with their opponents to improve their performance. However, as explained by the athlete below, there is still a sense of community as everyone is engaged in the same activity together.

Yeah, I definitely think that there is a sense of community and a sense of everyone is coming together to do sports. So, there is a sense of understanding between everyone. (Female cross-country ski athlete from Yukon, 17 yrs old, J#6)

Many interview participants highlighted 'respect' as the most important value at the games: respect of the others, of the land and of the different cultures. It corresponds well with the key values of the AWG as "access and equity, cultural diversity, inclusion and awareness, fair play, history, honesty, legacy, personal excellence, respect for self and the others" (AWG2023, n.d.). A few also said that all the athletes/volunteers and staff looked happy to be there and seemed to be enjoying their time at the Games. This had a significant positive impact on participant experiences.

Observation 5, AWG2023: Team and non-Team socialisation.

Generally speaking, the attitudes and socialisation patterns of the participants are the same as those seen in traditional sports competitions. Athletes mostly stay in their Teams or close to their delegations, especially during the first few days of the Games. It should be pointed out that when asked, several participants told us that they had only recently been selected and that they were just getting to know each other. So, they try to get to know the kids in their own Team before meeting other athletes. Having said that, we note that the exchange of pins is frequent and is a very efficient way of encouraging interaction between participants from different delegations. This practice, which is widespread at the Games, affects both young people and adults, participants, officials and organisers. This is one area in which Arctic Sports differ from other disciplines. There are Team effects and inter-knowledge, but there is also a lot of mixing and interaction. There are no clear boundaries within the venue itself, and

participants move around easily and freely. For the athletes, the hall is as much a place for living, meeting and exchanging ideas as it is for competing. On several occasions we observed ad-hoc games being organised between athletes from various different Teams (throwing, kicking balls, full football matches).

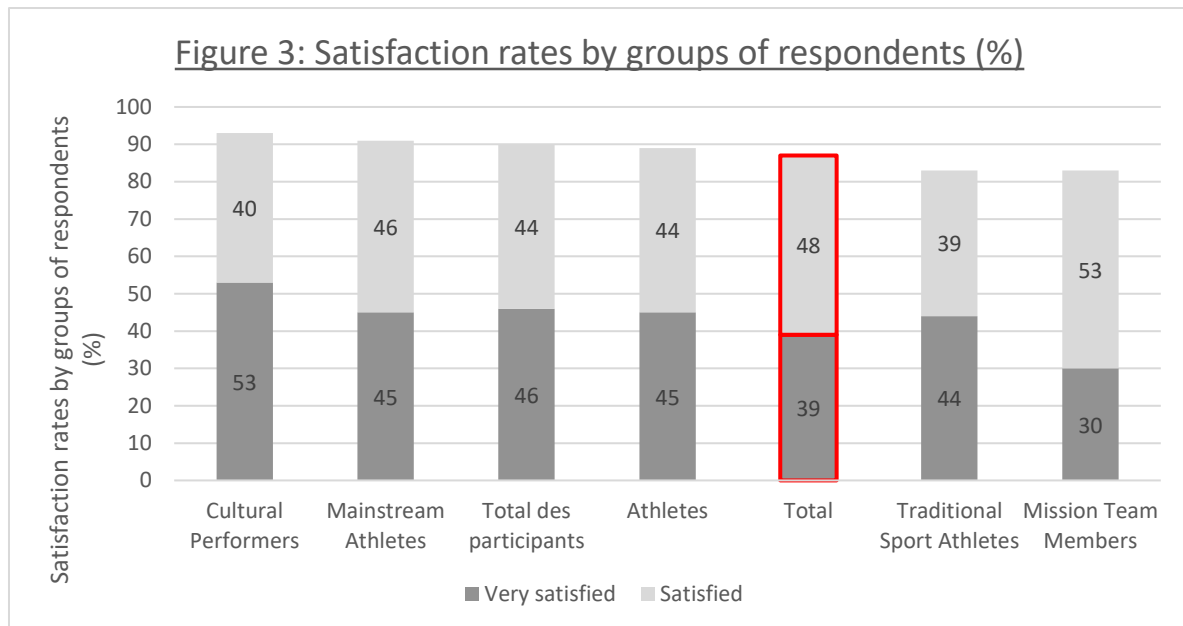
At the end of the interviews, some of the participants were asked to draw a representation of the AWG (see Appendix 2 - Drawings by participants). Looking at the drawings and listening to the youths' interpretation of their illustration allowed us to identify underlying themes: sports, the sense of community and the northern environment. Out of fourteen drawings, eleven represented sports, eight mentioned the sense of community felt at the AWG and five focused on the northern environment. Those who wanted to represent sports either drew the discipline they practiced, or a combination of the various disciplines included at the AWG. The community aspect in the drawings varies more from participant to participant, as some of them simply wrote 'community', while others illustrated people holding hands, the opening ceremonies, or a group of people in the same building. While the community is not described in the same way for everyone, it emerges as an important aspect of the AWG for participants. For example, the following cross-country skier thought about the community as a grouping of persons that all enjoy sport, and converge in one place, the North.

And then I just drew a few like sports that can remind us, like downhill skiing, cross-country skiing, hockey, basketball. But obviously there are tons of others. And then I just drew like a little like house thing with like a bunch of people because I feel like, you know, we really come together in like one place to do like what we love. So, yeah, I feel like it just kind of represents like sports and coming together in the North. (Female cross-country skier from Yukon, 17 yrs old, J#6)

Before drawing a representation of the Games, explained in the quote above, she talked about the different values that are promoted at the Games, immediately and spontaneously mentioning a sense of community that is promoted through sports. For her, everybody goes to the AWG for sport, but they are also all from the North, which helps create a sense of community.

All interview participants enjoyed the Games, and most had little or nothing to respond regarding potential negative features of the AWG. They all talked about how much fun they were, and they especially enjoyed two things: meeting new people and competing in their sport. MacIntosh & al. (2022) also found that athletes at the Youth Olympic Games were primarily there to compete, but the social aspect of the games was also important for them. Youths participating at the *Jeux de la francophonie* also enjoyed participating in their discipline and meeting other youths, however, they first and foremost highlighted the Francophone character of the games, whether it was to meet other Francophone youths or the Francophone ambiance (Dallaire et al., 2010; Forgues et al., 2018). Comparatively, it is more difficult to tease out the extent to which participants attached a Northern dimension to the sense of community they felt at the AWG.

Question 48 consists of a satisfaction scale for the 2023 edition of the Games (see Figure 3). The overall satisfaction rate is 87% (including 39% extremely satisfied), with an unsatisfied rate of around 5%. If we analyze in more detail, we observe a higher rate of very satisfied respondents among participants compared to mission team members (46% vs. 30%), and a slightly higher total satisfied/very satisfied (90% vs. 83%). Among participants, 93% of cultural performers were satisfied versus 89% of sportsmen and women; and more cultural performers were very satisfied (53% versus 45%). Among sportsmen and women, there was a slight difference: 83% of traditional sportsmen and women and 91% of other sportsmen and women were satisfied (or very satisfied). Generally, neither Team/contingent nor sport discipline appear to be determining factors here.



The participants interviewed manifested a similar degree of satisfaction: all of them generally enjoyed the Games, with some exceptions related to logistics and venues (transportation, scheduling, and physical surroundings).

One less positive issue brought up in interviews had to do with the very tight schedule combined with the remoteness of facilities which did not give athletes the opportunity to attend cultural performances or to spectate other sports.

Another point of critique related to the physical quality or relevance of some traditional sport venues:

The cultural aspect is very important. So, like, for example, I don't want to be negative or whatever but because we were playing on a football field for the Snow Snake. [...] The football field has artificial turf. Artificial turf is just plastic. So, we were playing on plastic. These sports are meant to be cultural. What's so cultural about plastic? There's nothing. That's not Mother Earth. (Male Dene Games athlete from NWT, R#7)

In his interview this athlete insists on the importance of the cultural significance of traditional sports. For him, a big part of his culture is associated to a connection (to each other, to the land, to the sport, etc.). The fact that some of the events were played on plastic turf meant no connection to the earth or the land, and hence a lack of cultural relevance.

Comments in question 49 of the survey are suggestions for improving the AWG for the 2024 edition of the games. The main themes emerging were:

- Improving bus transportation between the village and the competition venues, with a closer village and better planning of the bus system (around 45% of comments).
- Improve opening/closing ceremonies, considered too long and repetitive in the cold.
- Idea of better organization with more communication to Teams.
- Idea of freeing up athletes' time so that they can go and see other sports and do other activities.

In the interviews, participants referred primarily to one aspect they felt should be improved: transportation. They explained that the buses were often late, and it was hard to go from one place to another. This is common to other youth Games. For example, transportation was considered a stressor

for the athletes at the Youth Olympic Games (Parent & al., 2014) who mentioned that it impeded the possibility of watching other sports or cultural performances. Contrary to responses in our survey, the length of the opening/closing ceremonies were not a problem for the interviewees, who instead enjoyed them. The waiting time before the ceremony was mentioned, but not necessarily as a negative issue, it became a time to meet new people and talk to other Teams/contingents.

Well, other than the busses, obviously. I wouldn't say there's anything that needs to be changed. I think everyone's done an excellent job holding up the Games, especially the volunteers. They've been doing fantastic and we're very happy that they've chosen to spend their time helping run the Games. It's very much appreciated. So, I wouldn't say there's much to change. (Female wrestler from Alberta North 2, 16 yrs old, C#2)

For the Games, I think everything's just pretty good. Just maybe more buses to travel because some teams are late, but I think it's all good. (Male futsal player from Nunavut 1, 15 yrs old, C#1)

Most participants identified the bus situation as the principal problem during the Games, although it did not appear to cause significant concern. Participants would have preferred a faster commute between sporting events, but overall, the issue did not negatively impact their experience at the Games.

Questions 50/51. Satisfaction with the choice of Wood Buffalo as location

The last two questions in the survey are designed to assess participants' satisfaction with the choice of Wood Buffalo as the host city for the games.

Question 50 is a purely quantitative satisfaction scale, with the non-satisfaction rate at around 10% and the very satisfied rate at around 35%. So, overall, it can be said that respondents are satisfied. Here too, there are few differences between groups of respondents: mission team members and participants agree on this point, as do the traditional and mainstream sportsmen and women. The only visible differences are a higher satisfaction rate among cultural performers than among sportsmen and women (100% vs. 90%), and a high rate of disagreement for the biathlon, racket and volleyball disciplines (<75% of satisfaction). Finally, if we look at the Teams/contingents, only the Yukon has a disagreement rate higher than 15%, and Alberta (host) is the only Team/contingent with a majority of votes on the "perfect place" response.

For question 51, which asked why the choice of Wood Buffalo was a good/bad choice, the breakdown of comments does not allow for a precise group analysis. However, we note that positive comments dominated among mission team members (51% vs. 45% negative), while negative comments dominated among participants (50% vs. 45% positive). Among negative comments, only one theme dominated: the problem of transport and the distance between locations (accommodations & gyms). Among positive comments, three themes were frequent: top gyms, top city and context, and top housing.

The problem of distance and transportation between the locations also, however, emerge in the interviews, mostly because it created a challenge for the athletes/artists to spectate other sports or cultural events because of the distance between locations and the lack of buses.

I think that one thing that is different from other games that I went to is that all the sports are super distanced. We are at what, 15 min of the hub? So, from where everybody takes the bus, but badminton is two hours from the hub (Female biathlon athlete from Yukon 1, CA#1)

It was this athlete's second participation in the AWG. She noted that the distance between venues and the transportation system made it difficult to attend other sports compared to the previous Games. However, she also spoke about the fact that the venues (accommodations, competition venues) were of higher quality. While the athletes found it challenging or impossible to travel between venues to see other sports, they acknowledged the privilege of being able to compete and be housed in such impressive facilities. The biathlon athlete mentioned that they slept in classrooms at the previous edition of the AWG, and that the 2023 venues were a big step up. Although transportation made it more challenging to watch other sports, the athlete found it easier to socialize with new people during the 2023 event compared to the 2018 event, where athletes were separated into different classrooms around Fort Smith and Hay River.

Differences among respondent answers: A large majority of respondents were satisfied with the games (87%), which seems to stand out from other sporting events of this scale. Regarding the choice of the Wood Buffalo as host region, some 90% of respondents considered themselves satisfied, and even more so with the host Team/contingent, where many respondents were extremely satisfied. The only issues that stood out across groups were those of transport/scheduling and the distance between the athletes' village and the sports facilities.

General satisfaction – Focus Question

It is impossible to host perfect Games, for any type of Games. However, youth events that add a social and cultural exchange dimension to their objectives face an added challenge of offering a milieu that enables this interaction. This systematically occurs at such youth events, whether the Youth Olympics, the *Jeux de la francophonie canadienne*, the *Jeux du Québec*, the *Jeux de l'Acadie...*

Recognizing the competing objectives that arise in planning youth Games that have an impact on the organization of sites (sponsors, existing facilities, contribution of different geographical communities...), how can the AWGIC further consider this aspect in:

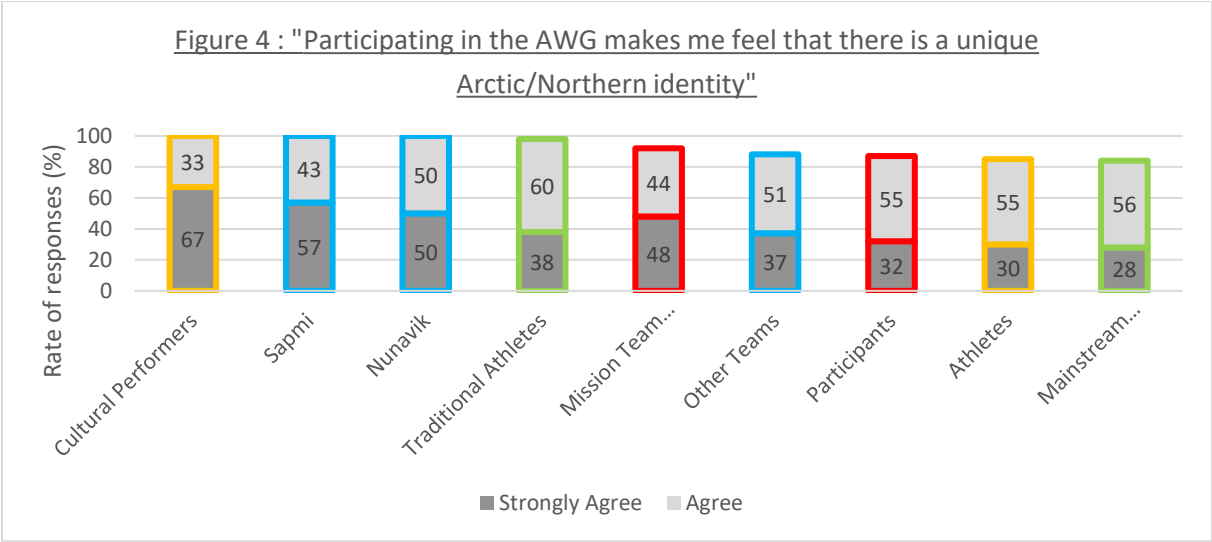
- The evaluation of bids to host the AWG.
- Supporting and guiding the Host Society's decision-making when faced with difficult choices (i.e., comfort of athletes vs distance from competition sites).

5. Social sustainability

Questions 16-19. Northern unity and cultural exchange

Organizers seek to promote Northern unity and cultural exchange through the AWG, and questions 16 to 19 evaluate respondents' experiences in this regard.

Question 16 specifically assesses respondents' sense of a unique identity in the North (see Figure 4). We note that this feeling was stronger among mission team members than among participants (92% agree, of which 48% strongly, versus 87% agree, of which only 32% strongly). Among participants, cultural performers are also more likely to agree: 100%, including 67% strongly, versus 85% of sportsmen and women, including only 30% strongly. Among sportsmen and women, 98% (including 38% strongly) of those practicing traditional sports agreed with the idea of a unique identity for the North, while other sportsmen and women were more measured (84% including 28% strongly). In terms of Team/contingent, only two Teams had a majority rate of strong agreement: Nunavik and the Sápmi.



Question 17 assesses the sense of belonging to the North by asking respondents to what extent the AWG make them feel at home in the North (see Figure 5). The results follow the trends of the previous question, and the sense of belonging is highest among mission team members (86% vs. 79% of other participants), cultural performers (89% including 50% strongly vs. 78% of sportsmen and women including 35% strongly), and traditional sportsmen and women (92% including 44% strongly vs. 76% of other sportsmen and women including 34% strongly). In terms of Team/contingent, this time it was Alaska, Greenland and the Sápmi who showed a strong agreement rate of over 40%.

While participants may not have spontaneously highlighted the Northern dimension of the AWG as a motivation to participate in the Games, these results do show that they did feel a sense of belonging to the North during the games. Their responses to these two questions show that their experience is like that of youths at the *Jeux de la francophonie* who report a greater sense of Francophone identity at the games because of the ambiance and of the social interactions with youths 'like them' (Forgues et al., 2018; Dallaire et al., 2010).

Observation 6. Arrive as a delegation, leave as a 'Northerner'.

As in many international competitions, the opening and closing ceremonies are two essential events in the organisation of the Games. But beyond the ritual aspect, largely inspired by references to Olympism (the parade of national and regional delegations, the referees' oath, the arrival of the flame), we can see how, from an opening ceremony marked by the formality of protocols and the solemnity of speeches, we move on to a closing ceremony directed primarily towards the participants.

At the opening ceremony, uniforms and large formal contingent signs ('Alaska', 'NWT', 'Greenland', etc.) ensured a strict 'confinement' of participants to their own designated area but already during the ceremony began the exchange of flags and other memorabilia between Teams.

At the closing ceremony, to an even larger extent the athletes, gathered without protocol around the main stage, mingled with other delegations, exchanging their equipment, which, in the absence of clothing identification, made it difficult to reorganise the contingents at the time of departure. They expressed their pleasure at being reunited after a week of trials, discoveries and exchanges, and when the Queen song 'We are the champions' rang out, the athletes took it up in chorus, transforming it and proclaiming: 'we are champions of the North'. Having arrived as athletes and representatives of their region or nation, the participants leave as members of a sporting community united by its attachment to a common geographical area and way of life - the North.

Most interview participants described the Games as an association of people from the North and the Arctic, where the connection and the social exchanges between all the participants are valued. The sports competitions, but also all the activities offered are a way to bring different people from the North together.

I would define the games as an international association of people of the North that—Sorry, I don't know how to explain it, I need to find the words—that assist in cultural and competition exchange, I'd say, and social exchange as well. And I feel like it's a very important part of peace in terms of that and getting together. I feel like it's so important, and sports really help with that, like with any international tournament. (Female wrestler from Alberta North 1, 17 yrs old, C#2)

Here, it's only for the North. So, everybody is from the North, and we all have something in common because of it (Female biathlon athlete from Yukon 2, CA#1)

Both athletes explain that the AWG are a way to get people from across the North together. The North connects them all, even if they don't speak the same language or don't have the same culture. They all live in the cold and in a place where opportunities are fewer than people living in the South might benefit from.

More so, some interview participants said that the AWG helped to create a sense of belonging to the North, but not necessarily the Arctic.

No, I think we're from the North. We live where it's cold, but I think the Arctic is usually even more North than where we live. So, yeah, I wouldn't say I'm from the Arctic. (Female cross-country skier from Yukon, 17 yrs old, J#6)

Most of the participants in the interviews live above the 55th parallel but below the Arctic circle. They can legitimately be described as ‘Northerners’, and may not think of themselves as ‘Arctic’ dwellers, for a variety of reasons (geography, indigeneity, isolation...).

Yeah. I'd say I'm a Yukoner. I don't know, I like the lifestyle that people in the Yukon usually have, and I'd say I really empathize with that and want to have the lifestyle like a lot of people in the Yukon, because of how it's all in the outdoors and stuff like that. I wouldn't say I'm really Arctic because Whitehorse isn't very super, super far up North. It's not a super Arctic region. (Male cross-country skier from Yukon, 16 yrs old, J#5)

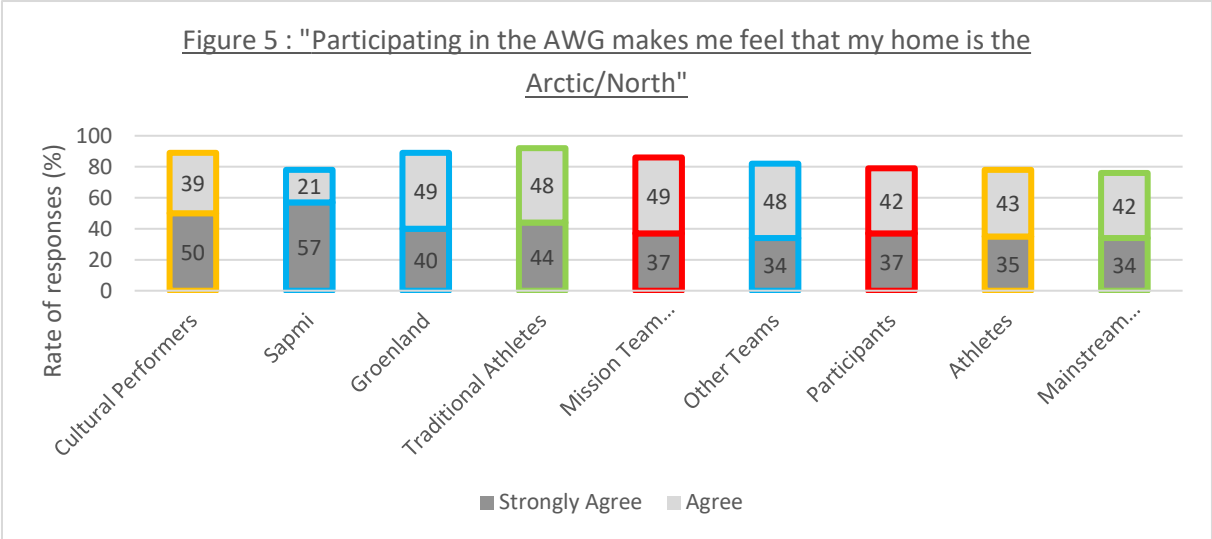
For these Northern participants, opportunities and resources, though more limited than in the South, are much more accessible than for people living above the 63rd parallel.

I'm outside all the time and I do like a lot of stuff outside, but I don't know if I would consider myself to be Arctic compared to as if I lived in Nunavut or really at the top where it's isolated, and it's harder to get supplies up here. Because we still have like quite, like if I need anything at all, it's like right available for me, and I can like, it's quite easy to get anywhere. So that's never really... I'd say more like Northern, Northerner. But I don't know if I would... Yeah. (Female cross Country skier from Yukon, 17 yrs old, J#7)

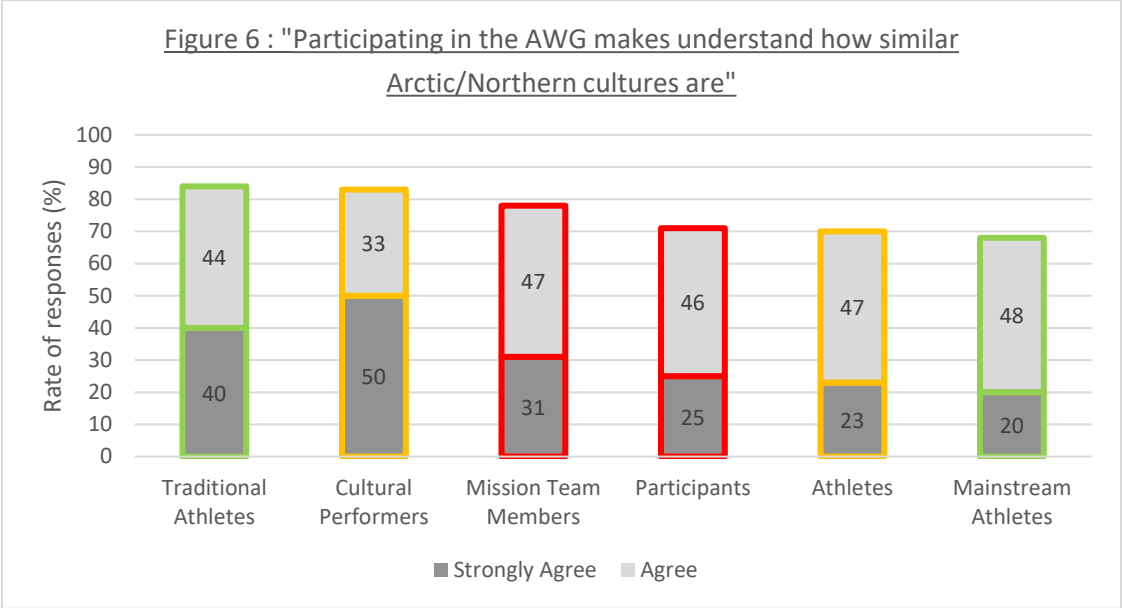
It is difficult to compare to participants that are from more “Arctic” regions, because few were interviewed. One athlete from Greenland solely associated the Arctic with cold temperatures:

So, of course, I think it's really cool to meet these people from other places in the Arctic. So actually, we have a lot in common in one way or another, because we live in cold places, I don't know, so we have a lot in common in a way. (Female badminton athlete from Greenland, 16 yrs old, R#5)

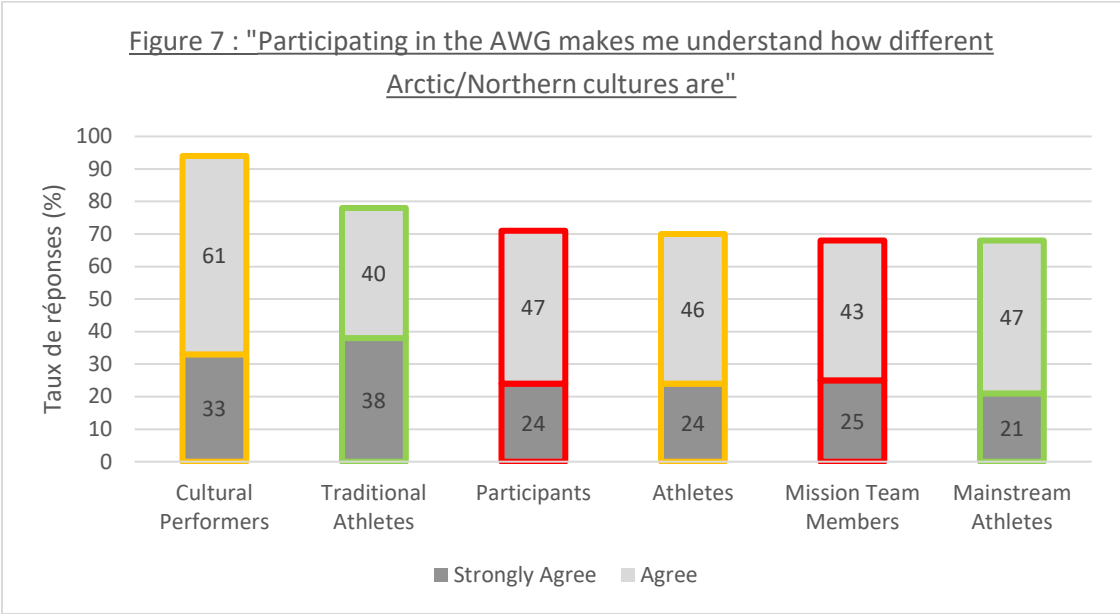
Participants from Alberta, and from the more southern and more populated areas of the Yukon and the Northwest Territories do not consider themselves as being from the Arctic but rather from the North, while people from “Arctic” regions seem to consider everybody that competes at the AWG as included in the “Arctic”.



Question 18 quantifies the extent to which the AWG have enabled respondents to find the cultures of the North similar (see Figure 6). Here again, this common culture is perceived more strongly by mission team members (78%, including 31% strongly, versus 71%, including 25% strongly, by participants). It is also perceived more strongly by cultural performers (83%) than by athletes (70%). Similarly, among traditional sportsmen and women, the idea of a shared culture is more prevalent than among other sportsmen and women (83% vs. 68%). Finally, there are no notable differences between Teams/contingents or sporting disciplines.



Question 19, on the other hand, assesses how the AWG enabled respondents to become aware of the differences between the different cultures of the North (see Figure 7). Around 25% of respondents did not perceive the differences between cultures, regardless of group. We also note that there is no real difference between mission team members (68%) and participants (71%) on this question. Nevertheless, among participants, cultural performers are more likely to perceive these cultural differences (94% vs. 70% of sportsmen and women), and the sub-group of traditional sportsmen and women is also more likely to agree with this idea (77% vs. 69% of other sportsmen and women). No difference between sports disciplines, nor between Teams/contingents.



When the participants were asked in interviews about the cultural dimension of the AWG, many spoke of the opening ceremony. They talked more precisely about the different languages spoken at the ceremony and a few mentioned the inclusion of an Elder amongst invited speakers. What is particularly interesting is that the only Indigenous cultures seem to be acknowledged. On the one hand, this may be curious since the AWG bring together people who speak different languages and come from different countries. Furthermore, not all the participants are Indigenous. On the other hand, it may not be surprising since Indigenous cultures were indeed the focus of the opening and closing ceremonies as well as the cultural programming of the Games. In the two extracts below, both athletes mention different elements of Indigenous culture that were shared in the opening ceremonies.

Yeah, it's super cool because all the Northern areas are included, and it was super cool at the opening ceremonies when they played Indigenous music and when dog teams came in. (Male futsal player from Nunavut 2, 14 yrs old, C#1)

One of my favorite parts about the opening ceremony was, I'd have to say, they brought in an Elder. I can't remember her name, but she had spoken a prayer in both English and her language and I thought I really liked that. I thought that was an excellent opening to the whole, the Games and the ceremony because it was diving straight in. We're here for the Games, but we're also here to recognize the cultures around it, and I really liked that part specifically. (Female wrestler from Alberta North 2, 16 yrs old, C#2)

All interview participants appeared to enjoy learning about different cultures. However, the ceremony showcased local culture, neglecting other groups/cultures included in Games:

Because I know that the Galas we're going to have, not everyone can go to it. Because they have competitions, or do something else, and stuff like that. The opening was for everyone, but that just shows the local people [s' culture]. (Female cultural participant from the Sápmi delegation, R#3)

In the same interview, the same participant later mentioned that she would have liked to be able to perform in front of a larger audience so that more people learn about her culture. She mentions that joint events would be great, so that athletes and cultural participants can have more opportunities to

watch each other's performances. Positive responses to the opening ceremonies and their integration of culture, indicate that participants would be open to learning about and seeing more cultural performances, if they had the opportunity.

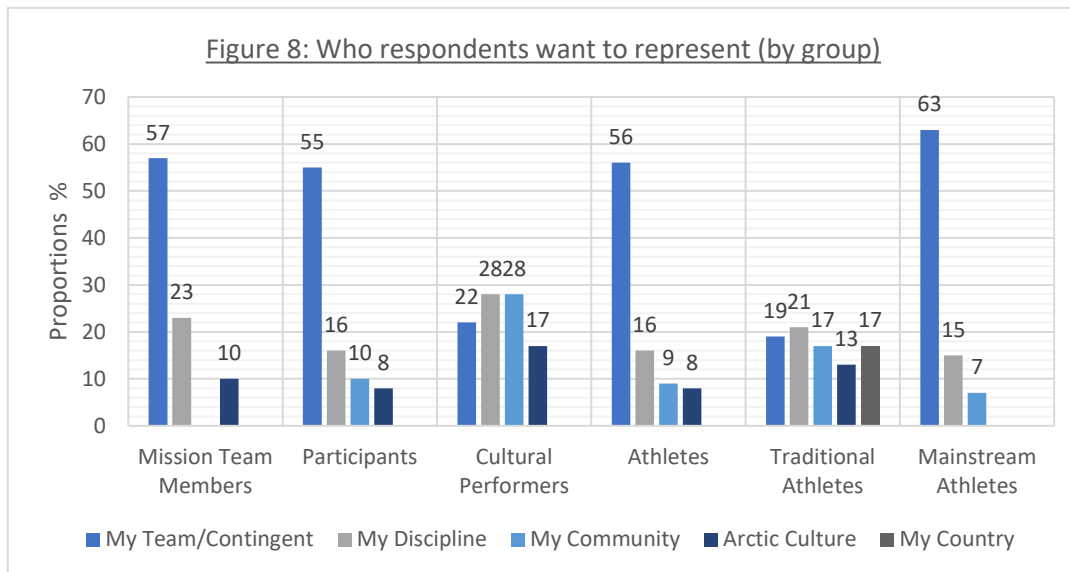
The press coverage analysis adds an interesting perspective here. There are distinguishing features in the articles produced by the local/regional media compared to the national press covering the Games. National press reports tend to emphasize the social and cultural dimension of the Games. They try to present the spirit of the Games, often showing pictures of the Dene Games, Arctic Sports or traditional practices or cultural performances, highlighting the participants' pride to be part of Northern culture (and often talking about the very cold temperatures experienced at the Wood Buffalo Games – down to -35°F/-37°C). The Canadian national press highlights key moments, such as the opening ceremony, or the social experiences that make the Games an unforgettable moment for the youngsters (socialization moments, pin-trading, etc.). National press articles sometimes also feature the ancestors or the elders of the local communities hosting the Games, focusing on respect for First Nation cultures and reconciliation. They also tend to describe the Northern communities where participants come from and highlight the international circumpolar Teams/contingents gathered in Wood Buffalo (Greenland, Alaska, Sápmi, etc.). Conversely, local and regional press reports focus on organisational issues, local development (legacy of the Games in terms of facilities, for example) and sport key-moments (daily performances, finals, etc.)

Differences among respondent answers: On the four themes of Northern identity, belonging to the North, common culture and different cultures, the groups of mission team members, cultural performers and traditional athletes are more concerned about and appreciative of these identity and cultural aspects than the other groups. This dimension is also highlighted by the Canadian national media organizations.

Questions 20-21 & 26. Sense of belonging and identity of the North

Questions 20, 21 and 26, correspond to an evaluation of the feeling of belonging to several groups, and seek to find out how the identity of the North is defined by respondents.

Question 20 shows what respondents consider themselves to represent (a country, a place, a Team/contingent, a culture, etc.). Taking all groups together, we can see that most respondents primarily wish to represent their Team/contingent (55%). As for the differences between mission team members and participants, both mission team members and participants first and foremost partake to represent their Team/contingent (57% & 55%); then it's the idea of representing one's discipline that comes second, and it is more pronounced among mission team members (23% vs. 16%); finally, mission team members conceive themselves as representing the culture of the Arctic (10%). Among participants, athletes are more likely to see themselves representing their Team/contingent than cultural performers (56% vs. 28%), the latter preferring to represent their community and discipline (28% vs. 22%). The same is true of sportsmen and women: mainstream sportsmen and women partake in the AWG to represent their Team/contingent (63%), while traditional sportsmen and women are less inclined to agree. 4 reasons stand out: to represent one's team (19%), one's discipline (21%), one's country (17%) and one's community (17%). Finally, only participants from Greenland and Nunavik did not give a majority answers linked to the idea of representing one's Team/contingent (more diffuse responses).



Question 21 seeks to understand how respondents define "being from the North". One idea dominates regardless of the group, and that is having a Northern spirit/mentality (33%). While mentality is important for both mission team members and participants (33% vs. 32%), living beyond the Arctic Circle is also a key factor (29% vs. 21% for participants), both groups agree on the idea of living in an extreme environment (21% vs. 23% for participants).

Among participants, cultural performers are more likely to consider living beyond the Arctic Circle as important: 30% versus 22% of sportsmen and women, the latter preferring the logic of an extreme environment (23%).

Among other sportsmen and women, traditional sportsmen and women are more likely to consider the spirit of the North as a characteristic (40% versus 31% of other sportsmen and women), while other sportsmen and women also consider geographical location and extreme environment. There are no differences between sporting disciplines and Teams/contingents.

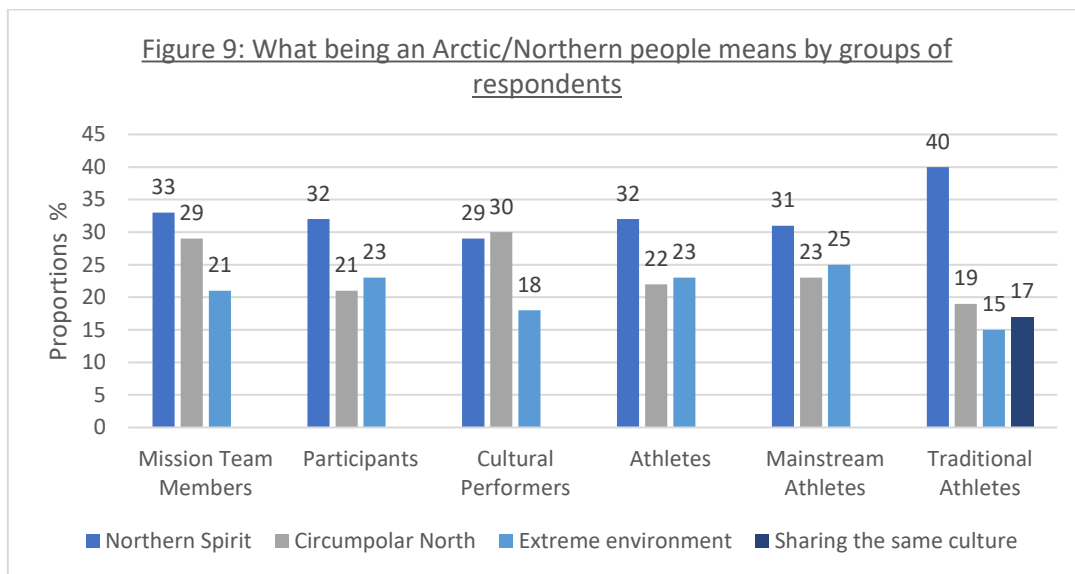
As mentioned earlier, interview participants were asked to draw a representation of the AWG. Of the fourteen drawings, five represented the north in some shape or form: the cold, mountains, snow, and lakes were drawn or described in writing by the youths. Three of these drawings were from an interview with athletes from Alberta North (see Appendix 2 - Drawings by participants). When asked to describe the AWG in their own words or to illustrate their sense of belonging as someone from the North or how they viewed the AWG as an event specific to the Arctic/North, these athletes recognized that their geographic location in Alberta North was crucial in allowing access to the AWG, and that the Northern character of the games was relevant in their overall experience. After completing their drawings, they explained them in these words.

"Sure, I'll go first. So, when I thought of North, I kind of thought of the environment mostly because I feel like that's what all connects us was our physical environment. I drew mountains on a lake, because that's what I really thought of being northern, because I grew up around mountains. I lived in Northern B.C. for a bit and that's what it kind of reminded me of. And also, the lakes as well and the water. I drew a northern star too because I'm like, well, that's what connects us as well. We all look at that and it's kind of who we are. I also have Northern Lights, but you can't really tell. I didn't really know how to draw it." (Female wrestler from Alberta North 3, 15 yrs, C#2)

"I drew, when I think of Arctic Games, I just think of everyone in a very cold environment, like very much winter, just having a great time. So, I just drew mountains because I think of mountains when I think of Canada and the cold and Arctic. And I drew, those little scribbles, those are all people just going around to have a good time, and you can see that there's trails all over the place from people skiing, just having a good time. And there's an ice rink, and there's flags because what's a big event without any flags? Then there's a bunch of cabins all next to each other because it's a community, and people are just having a good old time. That's what I drew" (Female wrestler from Alberta North 2, 16 yrs old, C#2)

"So, for the Arctic Winter Games, I just think of snow and the North, so I drew a big snowflake with people wrestling inside of it because that's my sport. It's really the only sport that I'm thinking about when we're here. Then there's mountains. When we were talking to the people from Yukon yesterday, they were talking about how they had a whole bunch of mountains there. Their scenery is mountains instead of lakes like Alberta has. I drew mountains and a plane flying up and coming towards the wrestling in the Arctic. Then I drew a road with a bus. Obviously, you can tell a bus. Because lots of people like us, we travelled by bus to get here. So that's just us travelling to go wrestling." (Female wrestler from Alberta North 1, 17 yrs old, C#2)

These three drawings and how the athletes describe their intentions in choosing what to illustrate focus not just on the Northern dimension of the AWG such as the climate and the landscape, but also on the shared experiences of the north among participants as well as the coming together and sense of community and enjoyment.



Finally, question 26 aims to get a better idea of this sense of belonging, by asking respondents what they were proud of during the Games (country, Team/contingent, culture, etc.). Here again, across all groups, the idea of being proud to belong to one's Team/contingent dominates (50% of responses). The second source of pride is that of belonging to the North, and this feeling is higher among mission team members than among participants (33% versus 25%). Conversely, the idea of being proud of one's country is higher among participants (18% vs. 9%). That last point about being proud of one's country is interesting because it isn't talked about in the interviews. Interviewed participants were invited to describe themselves in terms of their 'sense of belonging' and the majority expressed a sense of belonging to their contingents and explained that they wanted to represent their Team/contingent to the best of their abilities.

I feel like I belong here. I feel like I'm in a group of people, like just a community of people that, I don't know, are kind of like me, and are from somewhere far away and maybe don't live where their family lives and don't get to compete every weekend in what they do and get to come to these Games and represent our Territory, our contingent with our gear. I feel like going back home with all of that gear and everything is just a whole other feeling of like you're representing and kind of proud of that too.

QUESTION: When you say a sense of belonging, do you mean mainly to the Games in general and everyone here, or you mean to the Northwest Territories team?

I'd say more to the Northwest Territories team. I really love living in the Northwest Territories and I feel like when we get to come and show off some of what we do have there, it's not just a rock. We have lots of really good athletes, and I think it's really cool. (Female speed skater from NWT, 16 yrs old, C#5)

This sense of belonging expressed by the AWG participants is closely connected to a sense of interdependence and connection with peers (other participants whether they are from the same sport, same contingent or not) and others (mission staff, organizers, and volunteers). It is not merely a question of feeling good or welcome in a certain space, it is related to the quality of the relationships in this space, what Rosa (2019) calls "resonance". Most importantly, however, is that youth overwhelmingly felt welcome.

I feel like I found a good niche where I belong. I've met people at the Games, I've met people from my city, and I found people I enjoy spending time with; found stuff I like doing with those people. I'd say I'm very comfortable.

QUESTION: And is that a sense of belonging to the Games, or it's a sense of belonging to speed skating, or a sense of belonging to NT?

I feel like it contributes to each other because I feel a sense of belonging in the NT and speed skating. So then when I'm representing NT as a speed skater at the Arctic Winter Games, it's a very happy, good thing. (Male speed skater from NWT, 17 yrs old, C#4)

Whether as part of a contingent or as part of the Games overall, participants felt valued and experienced the AWG as an event for them. Most of the youths interviewed mentioned a sense of belonging to the Games per se. For instance, when asked about her sense of belonging, the wrestler below immediately mentioned a sense of belonging to the Games.

Well, I kind of feel like this is my home now after a few days, if that answers the question. You kind of develop a sense of family with people. I feel like that's the most important thing. I do. I feel like I do belong here. I think it's mostly to do with the people around me though. Everyone's so sweet, and the staff, and everyone just makes everyone feel so welcome. Like you're here. This is your home for the next week. It's really nice. (Female wrestler from Alberta North 1, 17 yrs old, C#2)

When asked if she identified more with Alberta North or as a Northerner, she explained that while all participants at the Games share a common Northern identity, there are still differences between individuals from each contingent. The Games provide a chance for people to learn about other Northern cultures, and she talked about how everyone at the Games was similar and all Northerners, but there were still differences between people from each contingent.

Another participant in the same interview concurred:

I feel like I do belong just because there are so many people here and everyone is so welcoming. It's not like, oh welcome. It's like they want you here. They're happy for you to be here. They're happy for your presence. So that's how I feel like I belong. (Female wrestler from Alberta North 3, 15 yrs old, C#2)

Despite these differences amongst participants or between contingents, this sense of belonging at the AWG seemed to be shared. Two other interview participants who had self-identified as Indigenous were asked whether, at the Games, they felt Indigenous, or felt a greater sense of belonging to their contingent or felt they belonged to the larger AWG. They responded:

I just feel like I'm part of the Games as everybody else. I know where I come from and stuff, so I will remember that. (Female dancer from Northwest Territories 2, 18 yrs old, C#3)

I just feel part of the Games too. Also, what she said. Just I already know where you're from and how it is down there, how people are. I just feel like I'm part of the Games here. (Male dancer from Northwest Territories 1, 16 yrs old, C#3)

On the one hand, their answer underlines a strong affirmation as Indigenous (they know who they are); yet at the AWG, on the other hand, they manifest a greater sense of belonging to the Games. Even if they were included at the event to showcase their Indigenous culture, they view themselves as participants like all the other youths and feel a sense of shared experience with other participants. This is a significant statement of a sense of inclusion in a context that underlined and highlighted Indigenous culture, both in positive and respectful ways while still underlining tragic issues (i.e., focus on Indigenous culture in ceremonies and cultural programming, various activities and pins associated to Truth and Reconciliation efforts including the legacy of residential schools and the Missing, Murdered & Exploited Indigenous Peoples). In other words, the conditions were favorable for the participants to express a greater sense of Indigeneity, or like many other participants, a sense of belonging to their Team/contingent. But instead, they underlined their feeling of belonging "as everybody else".

Similarly, two other participants from the Yukon, also felt a sense of belonging to the larger Games. They did not, at first, understand the interview question and through conversation with examples of potential answers did explain they were 'showing people what the Yukon can do'. Yet, when asked whether they felt like 'Yukoners' at the Games, they insisted:

Female figure skater from Yukon 1, 13 yrs old (C#6): I kind of feel like we blended into everybody.

Female figure skater from Yukon 2, 13 yrs old, (C#6): Yeah, we kind of feel all the same.

Female figure skater from Yukon 1, 13 yrs old, (C#6): Yeah, we kind of feel the same because we've been around each other and we've learned about other people. So, it's kind of like blended together, I guess?

Again, the following two athletes expressed a sense of belonging to the Games.

I think, I belong at the Games. I was meant for the Games. (Male futsal player from Nunavut 1, 15 yrs, C#1)

Yeah, I feel like I belong in the Games. I don't feel like I belong to the North. I'm not used to it. (Male, futsal player from Nunavut 3, 15 yrs old, C#1)

It's interesting to note that the second athlete only moved to Nunavut a few months before the Games, and he didn't necessarily feel that he belonged to his contingent or to the North. Regardless, he still felt he belonged at the Games.

Other youths recognized that AWG organizers purposefully promoted a friendly competition, building partnerships and social interaction:

I think because they're trying to bring together everyone and they're making sure that everyone feels together and feels like they have a sense of belonging and that they can still go. It is like an international event, and they can still be competing and feel safe. (Female cross-country skier from Yukon, 17 yrs old, J#7)

While the structure of the Games distinguishes contingents for the sport competitions and cultural performances, and the 2023 edition highlighted Indigeneity in the overall symbolism of the event, this shared sense of belonging to the AWG among youth participants is certainly related to factors such as the shared experience of living in the North and participating in an event for youths that emphasizes social and cultural exchange in a friendly environment. The Games thus appear to be fulfilling their mission.

Furthermore, that participants share a strong sense of belonging at the AWG is a crucial finding given that governments (e.g., Statistics Canada, 2023) and scholars (e.g., Bauman, 2013) are reporting that people – particularly young people – are feeling more disconnected from their communities than ever before. People are struggling to feel a sense of belonging for a multitude of reasons (including excessive technology use, the increasing pace of modern life, the breaking down of social structures, the threatening of cultural and ethnic values – see Allan et al., 2021), many of which were intensified by the COVID-19 pandemic. Strong connections to communities are vital for people's well-being – there is a high correlation between sense of belonging to one or more communities and people's physical and mental health – and this need is even more important in adolescence. Scholars (e.g., Jose et al., 2012) have documented that well-being can be enhanced by satisfying youths' need to be connected to others, for example through meaningful relationships with peers and caring, compassionate, and competent adults. Participants' responses to questions about sense of belonging suggest that the AWG are helping youth establish and/or sustain a sense of belonging, whether it be to their Team/contingent, the North, Indigeneity, the Games themselves or a combination of these and/or other groups of people, locations, identities or events. Furthermore, that some interview participants referred to a sense of belonging to their contingent, some to the North, some to Indigeneity, many to the Games as a whole, and some to several of these groups, locations or communities suggests that the Games offers a milieu that allows the manifestation of a sense of belonging to more than one aspect – participants are thus not expected to commit only to a pan-Arctic community (and identity) or to an Arctic Winter Games community while at the Games, (see Thomsen, et al., 2018 for more). That participants confidently identify feeling a sense of belonging to one or multiple different aspects, including to the Games, points to important AWG successes in youth development, in that they foster or at least enable youth participants to feel this sense of belonging while at the Games.

How is youth development defined in this project? Youth development refers to the significant cognitive, emotional, social, physical, and spiritual changes people move through in late childhood and adolescence. Youth develop a stronger sense of identity and increase their independence from their parents and/or other care givers, integrate into their communities and, eventually, into the workforce. Successful development depends to a great extent on how well adults across multiple sectors help young people, which happens, in part, through the provision of rich environments and valuable experiences in which youth acquire important competencies and ideas about the world. Importantly, feeling a sense of belonging to the groups inhabiting these environments and experiences is essential for positive youth development (see Lerner et al., 2005) – also known as PYD – and as participants' responses above suggest, the AWG successfully cultivate this sense of belonging, whether it be to Teams/contingents, the North, Indigeneity or to the Games themselves.

Therefore, while governments and researchers express solicitude about young people’s diminishing sense of belonging to their communities, the Games provide youth opportunities for connection – a challenging task in modern times.

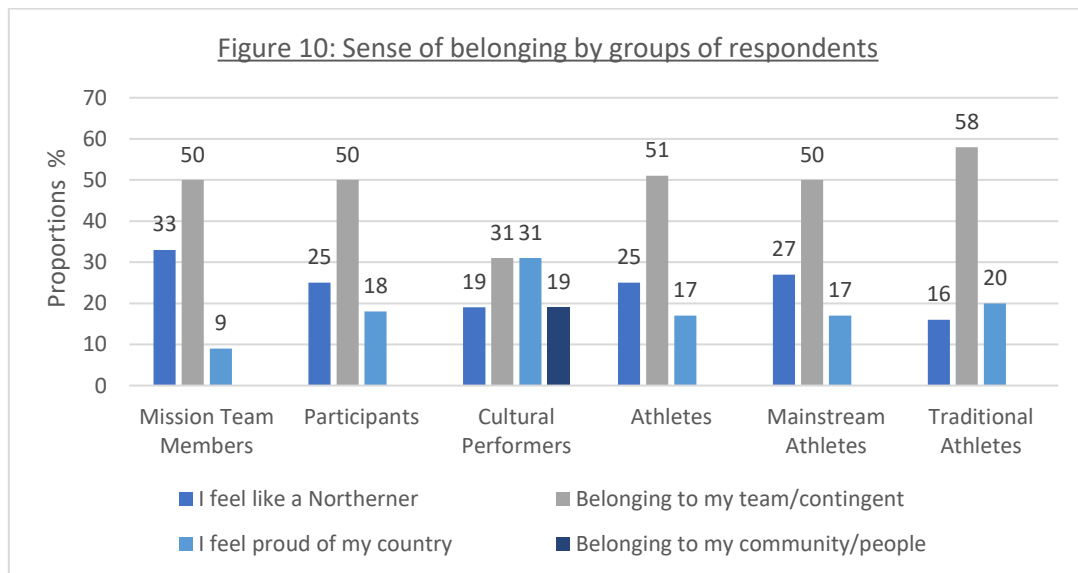
Returning to survey results, among participants, cultural performers are most proud of their country (31%) and community (31%), while athletes are proud of belonging to their Team/contingent (51%), then of being from the North (25%).

Among athletes, there is also a distinction between traditional athletes, who are first and foremost proud to belong to their Team/contingent (58% vs. only 50% among other athletes).

I can, I mean, to speak personally, I represent individually who I am as an Indigenous person. And then I represent Alaska. So, I do feel like I represent Alaska before I represent the USA. I think Alaska, we’re unique. And that’s, they fly the Alaska, or the Alaska flag comes behind us. And we have that on our shirts. I don’t have it on right now. But I know at least for Alaska, I feel like we represent Alaska first. And who we are as Alaskan people. And Alaska’s quite a diverse place, so... (Male Arctic Sports athlete from Alaska, R#6)

Despite the quote above, traditional athletes who responded to the survey are also more likely to be proud of their country (20% vs. 17%). Conversely, more mainstream athletes are proud to be from the North (27% vs. 16%). Lastly, the Team/contingent has an impact on the responses: the main source of pride here is belonging to one’s Team/contingent, for all except Greenland and the Sápmi respondents, who are proud of their country.

This aspect will be explored further, with the aid of other data, but much seems to suggest that this kind of response can be related to a particular ‘European’ (non-federal, unitary nation) understanding of one’s ‘country’.



Highlights: We can see from these questions that most respondents are proud to represent their Team/contingent or discipline. We also note that more mission team members profess to being proud to represent the North and Arctic culture. Finally, the idea of belonging to the North is defined here as having a Northern spirit above all else (once again, this feeling is higher among organization members). It is also noteworthy that participants speak of feeling a sense of belonging to multiple

aspects of the Games (e.g., contingents, the North, Indigeneity, the Games themselves). The AWG fosters this environment or at least enables youth participants to experience this sense of belonging while at the Games. This is a crucial finding given that governments and scholars are concerned about youths’ sense of belonging, a quality-of-life indicator.

Questions 22-25. Social interactions

The aim of questions 22 to 25 is to understand what social relationships are created during the Games, and how.

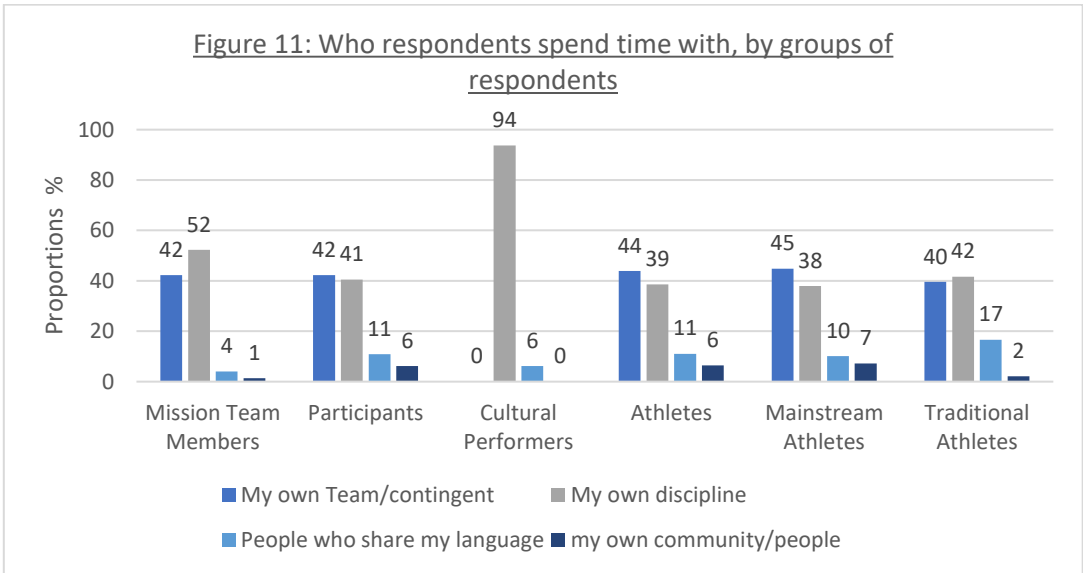
Question 22 asks who respondents spend most time with at the Games: their Team/contingent, other participants in their discipline, people of the same language or from the same community.

Mission team members spend most time with people from the same sport (52%), followed by those from their Team/contingent (42%); conversely, participants spend most time with people of the same Team/contingent or same discipline (41% & 42%).

Among participants, cultural performers spend most of their time with people from their own discipline (i.e. the cultural performers), and not with their Team/contingent (94%), while sportsmen and women spend most of their time with their Team/contingent (44%), followed by other sportsmen and women from their discipline (39%).

Among athletes, traditional athletes spend more time with other athletes in their discipline (42% vs. 38%), while mainstream athletes are more likely to spend time with their own Team/contingent (45% vs. 40%).

Finally, for all Teams/contingents, respondents spend most of their time with people participating in the same discipline as them, then with their Team/contingent, with the exception of participants from Nunavut and Yukon, where this order is reversed.



Question 23 aims to quantify whether participants mix between Teams/contingents at least sometimes. Irrespective of the group, we observe an overwhelming "yes" for 89% of respondents. This rate of positive responses is almost similar between mission team members and participants (90% and 87%). Among participants, 100% of cultural performers mix with other Teams/contingents at times,

whereas this is the case for 87% of athletes. We also note a lack of difference between Teams/contingents and between sporting disciplines.

Question 24 asks what respondents like about mixing with other Teams/contingents. We only observe differences between the mission team members and participants; otherwise, the recurring themes are similar. Both participants and mission team members like to be with other Teams/contingents to exchange views on the differences between their cultures (24% and 20%). For mission team members, it's the idea of exchanging on a common passion (17%), sharing experiences and confronting ideas (12%) and creating/reactivating friendships (11%) that dominate next. Among participants, the idea of meeting people for fun and experience (12%), because they're nice (11%), and to take an interest in them, get to know them and learn from them (11%) comes next. A difference between the two groups that may be linked to age differences (young people learn and discover, have fun & older people exchange, debate their ideas/experiences) would explain why there's no real difference even within the "other participants" group (cultural performers + traditional sportsmen + mainstream sportsmen).

Finally, question 25 highlights the reasons why respondents who answered "no" to question 23 and thus, did not mix with the other Teams/contingents. Mission team members, like participants who didn't fraternize with other Teams/contingents, gave as their main reason a lack of opportunity linked to a complex timetable and a lack of time (45% of participants and 64% mission team members). Among participants, we find shyness, perhaps higher among them because they are younger (36% vs. 27%), and the language barrier (11%, probably also linked to age to some degree).

Among sportsmen and women, traditional sportsmen and women put forward the fact of not speaking the same language (57%) or of being too shy (57%); conversely, among mainstream sportsmen and women, it's rather the lack of opportunity that dominates (43%), followed by shyness (37%).

Finally, the language barrier was also a major obstacle for the Greenland respondents (38%) and Arctic Sport participants (67%).

Interview participants mentioned that the AWG were a good way to meet new people and pin trading was often mentioned as a way to "break the ice" and engage in a conversation with someone they didn't know from other Teams/contingents. It is interesting that the following participant spoke of pin trading, before even being asked about it. When asked what the Games were doing well, she spontaneously mentioned the relevance of the pins to facilitate social exchange:

I also think that the fact that we have pins, I don't know, maybe it's a bit random, but the pins really make it so... because otherwise I think we stick to ourselves a bit, all the countries, and then I really think that the pins, it's such an icebreaker, if you can say it like that, it's really like, you can go to a person, do you want to exchange pins? Or something. Then you can, and then you can exchange pins, but then you can also start talking to these people, that are from other places, so it's also really good this thing with pins (Female badminton player from Greenland, 16 yrs old, R#5)

A futsal player talking about the pins after being asked about his sense of belonging. For him, the pins help initiate social exchange among youth, which led to further conversation and friendship.

I think it's helping because we're always seeing other teams and other people, and they gave us the pins that we can trade which starts conversations with other people. Like you talk about the pins, and then you talk about something else, and you're like friends. We're always with other people, and if we go to play pool or something, you can ask them to play, and then that starts something. I think it's just helping making friends because of sports. (Male futsal player from Nunavut 1, 15 yrs old, C#1)

We can say that pin trading at the AWG helps participants engage with youths from other contingents, what we have observed on several occasions. It also helps create a friendly atmosphere at the competition.

The press coverage analysis provides further food for thought about the social interactions at the AWG. Media articles focused mainly on youngsters (69% of the photos), most of whom were participants, and sometimes on spectators. They emphasized “juvenile characteristics” such as spontaneity and enthusiasm, describing pin-trading as an “unofficial sport of the games”. The press coverage analysis shows that the social goals of the AWG are mentioned in most of the articles. Even if the media article dealt with a specific question such as the one player losing his hockey gear during the travel to the Games, the structure and content of the press coverage highlight the solidarity and mutual understanding between the athletes.

Differences among respondent answers: We can see here that most participants are willing to mix with other Teams/contingents, especially mission team members, cultural performers and traditional sportsmen and women, who spend most of their time with people from the same discipline (but not necessarily from the same Teams/contingents). What’s more, while mission team members use these exchange times to debate and discuss their culture, passion for sport or experiences, participants focus on friendly encounters, a good atmosphere, and new experiences. Respondents point to an organizational problem that prevents them from having sufficient opportunity exchange with others, but also appreciate the opportunities provided by pin-trading to overcome initial shyness.

Sense of belonging and identity of the North and Social interactions – Focus Questions

The AWG are quite successful at creating:

- An inviting and friendly ambiance that fosters a sense of belonging to the Games, a key aspect of positive youth development.
- An environment that enables positive and respectful interactions.
- A space that encourages participants to meet, exchange and mix among Teams/contingents.

Such an agreeable and pleasant milieu *does not happen by accident nor is it a given* at any sport gathering. Indeed, Coakley (2011) argues that while dominant narratives suggest that all sport participation is good and all sport gatherings for youth contribute to positive youth development, this is not actually the case. Instead, “outcomes associated with sport participation are contingent and vary with contextual factors” (Coakley, 2011: 318). Environments that are too adult centric and focussed on competitive performance, such as many youth sport gatherings, can actually hinder some aspects of youth development. Youth and mission staff at the AWG denote the qualitative difference between the AWG and other sport championships. The mission and the values of the AWG, along with the Hodgson Trophy and pin trading go a long way in framing the expectations of what are desired social interactions at the Games and contribute positively to the development of Northern youth.

We invite the AWGIC, host societies and Team/contingent leaders to continue to reflect on the various strategies that create such a fruitful milieu for youth development, at all levels of the event: within the Team/contingent, among Teams/contingents, in the overall AWG space/environment. For example:

- What message do Team/contingent leaders give to coaches to encourage sociability through pin trading and other means?
- How can the host society design a schedule/program that fosters space and time for sociability?
- How can the host society train its volunteers and staff to establish a friendly and inviting climate?
- How can the AWGIC support Teams/contingents and host societies in promoting the values of the Games?

In addition, while the Games currently set the stage for positive youth development to occur through the focus on cultural aspects, prestige of winning the Hodgson Trophy, tradition of pin trading, etc., we invite the AWGIC, host societies and Team/contingent leaders to further reflect on whether the AWG can foster new kinds of youth development. For example, researchers and practitioners suggest that youth development programs are most effective when they have “a more strategic programmatic focus on the connections between individual development, community development, and social change” (Coakley, 2011: 318). Thus, while the AWG currently stands out in the North American sports event landscape for its positive youth development successes, we feel that it can reach even further by rethinking its youth development strategy to add a focus on aspects related to “power, privilege, and oppression affecting young people’s lived experiences” (Gonzalez et al., 2020: 25). Newer youth development models, that incorporate social justice, such as social justice youth development (SJYD) and critical youth empowerment (CYE) (see Camire et al., 2022; Coakley, 2011; Iwasaki et al, 2014; Kope & Arellano, 2016, Lerner, et. al., 2021), might offer starting points to this reflection. Programs and events using a social justice youth development approach provide youth with critical thinking opportunities that challenge their perceptions of the conditions that impact their lives, while at the same time providing them opportunities to take action to change these conditions. Those that use a critical youth empowerment approach focus on creating greater community change through the meaningful sharing of power by all those involved. The increasing engagement of local Indigenous communities in planning and participating in the Games and addressing the Truth and Reconciliation of Canada’s Calls to Action are steps in the right direction with respect to applying these newer youth development models. The AWGIC, host societies and Teams/contingents can continue to be youth sport event innovators by asking questions such as:

- Can the AWGIC support Teams/contingents and host societies in offering participants opportunities to reflect on the conditions that shape and affect their lives? Can these reflections create change?
- How can youth leaders be incorporated into the governance and staging of future Games?

Questions 27-31. Attending traditional sports

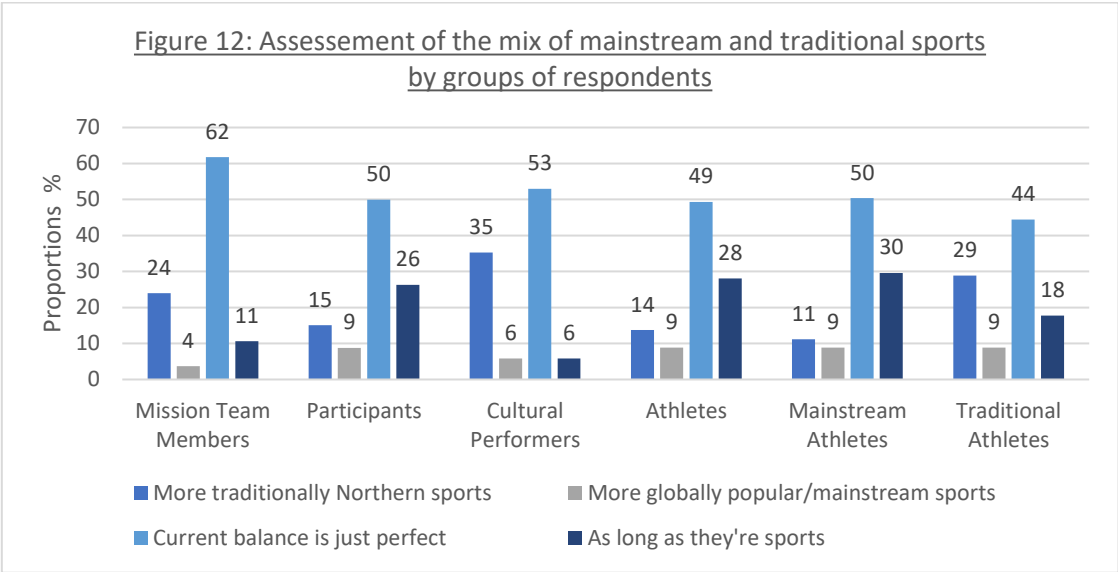
Questions 27 to 31 are designed to assess the integration of traditional northern games into the programming: the balance between traditional and mainstream disciplines, the interest shown by participants and whether they have taken part.

Question 27 is aimed more specifically at assessing the balance between traditional and mainstream sports proposed during the AWG. Generally speaking, 54% of respondents consider the current balance to be perfect. This successful equilibrium is more pronounced among mission team members, 62% of whom feel this way, compared with 50% of the rest of the participants. Still among mission team members, the next most popular idea was to add more traditional sports, garnering 24% of

responses versus 15% among other participants. Conversely, more of the latter are not really interested in the issue as long as sport is on the program (26% vs. 10% for the organization).

The balance between traditional and mainstream sport appears right by half of both cultural performers and sportspeople (53% art / 49% sport). Nevertheless, 35% of cultural performers think that the proportion of traditional sport should be increased, while conversely 28% of sportsmen and women don't care if the activities included are sport.

Among sportsmen and women, mainstream sportsmen and women think the balance is right: 50% versus 44% among traditional sportsmen and women. Conversely, the latter are more likely to think that the proportion of traditional sports should be increased (29% versus 11%). Finally, mainstream sportsmen and women are neutral and have no opinion if the included activities are sport: 30% versus 18%.

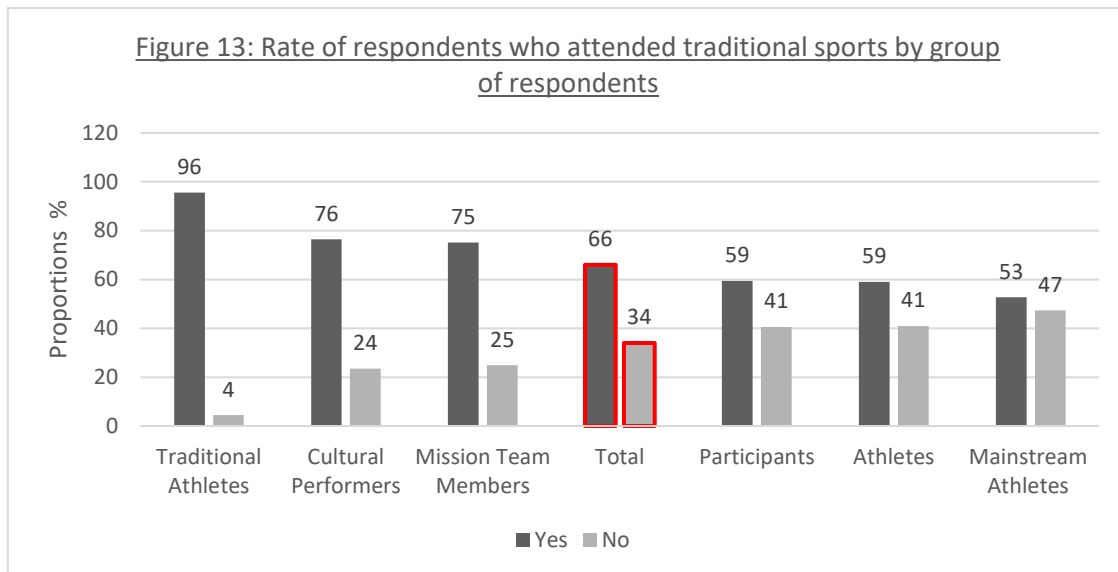


Responses to question 28 ('Additional comments on the mix of sports at the AWG?') are in line with continuity, and the following themes emerge frequently:

- Positive comments on the current balance.
- 'Nothing to report' comments.
- The idea of increasing the number of traditional sports.
- The idea of giving more time to watch/participate in other sports (13%).
- The idea of changing the age/sex/team categories (15%).

Question 29 seeks to quantify the number of respondents who attended traditional sports. We note that a large majority (66%) of respondents have taken part in these events. We also note that mission team members are more likely than others to have participated.

We also observe that the mission team members are more likely (75%) to have attended traditional sports, compared with 59% of participants. Within participants, there is a difference between cultural performers and sportspeople, with the former having attended more traditional sports events (76% vs. 59%). What's more, among sportsmen and women, there's a difference between sporting disciplines: all winter sportsmen and women (and not just traditional sportsmen and women) were in the majority at these events, whereas other sportsmen and women were in the minority. However, there was no difference between the Teams/contingents on this point.



Question 30 collects comments from participants who attended these traditional sports events. First, there were more positive than negative comments (around 70%). Among the positive themes that stand out are:

- Atmosphere
- Respect and values
- The idea of a unique / rare / unusual event
- The idea of an event linked to culture

Conversely, the most frequent complaints concern:

- Transportation
- Organization of schedules (in particular, the idea of freeing up more time to see other sports and reduce waiting time for competitors)
- Excessive noise
- Refereeing
- A lack of information on cultural aspects of the sports

Finally, question 31 highlights the reasons why participants did not take part in these traditional sports events. What stands out first and foremost is the lack of time and opportunity (71%). This was 94% of the reasons given by mission team members, compared with 68% among participants. This proportion is also higher among cultural performers, with 75% declaring a lack of time or opportunity, compared to 65% of sportsmen and women.

We also observe a higher rate of disinterest for traditional sports among participants: 27% versus 4% for mission team members. This rate is similar among athletes, cultural performers and Teams/contingents from Alberta, Greenland, and Nunavut.

The press coverage analysis offers relevant qualitative elements about the way traditional sports are perceived. Media photos of the Arctic Sports are often associated to performance, while photos about the Dene Games are more related to culture. When showing performances, the photos about the Arctic Sports mostly focus on the technical moments (e.g. the apex of the jump of a two-foot high kick), trying to capture the athlete's effort. The ones highlighting the Dene Games tend to relate the atmosphere of the area, showing participants and, in the background, traditional elements (flags,

costumes, etc.). Media coverage hence portrays Dene Games as closer to cultural events, while they cover the Arctic Sports as physical feats. This type of differentiated perception may have an impact in attracting spectators to one or the other.

Differences among respondent answers: When it comes to the balance between traditional and mainstream sports, all groups seem to agree with the current balance. However, the mission team members, cultural performers and traditional sportsmen groups also want more traditional sports. These three groups were also the ones who participated most in traditional sports events. Finally, respondents who were unable to take part again cited lack of time and opportunity. Among participants, the idea of respect/values, a special atmosphere and culture emerged.

Attending traditional sports – Focus questions

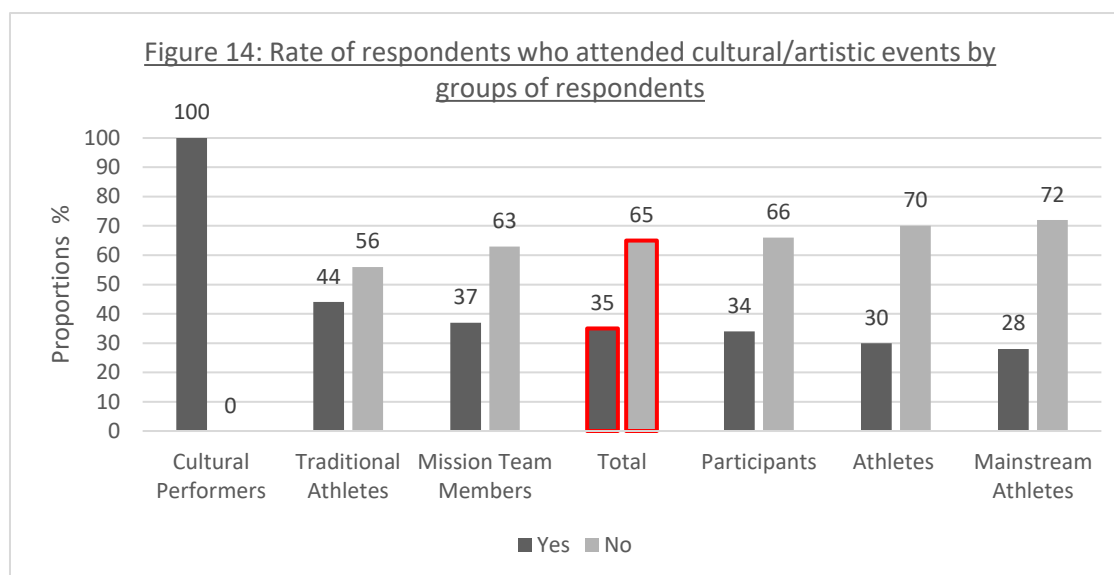
The main constraint reported to going to watch traditional sports were time and opportunity.

- How can host societies design a program that further enables mainstream sport participants and cultural performers to experience Dene Games and/or Arctic Sports?
- How can Team/contingent leaders further promote and encourage coaches to include a team activity related to experiencing/watching Dene Games and/or Arctic Sports?
- How can the AWGIC encourage and support host societies and Teams/contingents in experiencing the full diversity of competitions at the Games?

Questions 32-35. Balance between sporting and cultural/artistic activities

The series of questions 32, 33, 34 and 35 aim to assess the balance between sporting and cultural/artistic activities offered at the games, as well as respondents' interest in these cultural events.

Question 32 quantifies the number of respondents who took part in these cultural/artistic events. We note that many respondents did not attend the events (65%). However, participation is slightly higher among mission team members than among participants (37% vs. 34%). Among athletes, the participation rate was around 30%, while logically all cultural performers took part. Among sports disciplines, more traditional sportsmen and women attended these events (44% vs. 28% of mainstream athletes). We also note that only the Arctic Sports and biathletes (skiing) are in the majority to have participated in cultural/artistic performances. There are no real differences between Teams/contingents on this point.



The comments in question 33 seek to characterize the experience of respondents who attended these cultural/artistic events. Around 70% of comments were positive, with themes such as:

- Beautiful / impressive shows.
- Friendly atmosphere.
- The idea of culture.
- The idea of having learned something.
- The idea of a diversity of performances.

Conversely, what they disliked most was related to the organization of these cultural/artistic events: the choice of venues and schedules. For example, one of the interview participants mentioned that her team had to modify their choreography because of the flooring at the venue. It is hard to say if this was a problem that other cultural participants faced because few were interviewed, and this dancer was the only one to mention it.

It was nice to have an audience close. I think something to improve on the expectations of what every performer needs. I know it's a big question to ask, but for us, we can't perform on tile floors because it's unsafe for us, so we had to cut down a lot of our pieces and edit things so that we were able to compensate for that. So we were only able to do one or two pieces at pop-ups when we had a list of five to do, because it's unsafe for us to be dropping on our knees or certain things, bare feet on the tile. (Female dancer from Alberta North, 16 yrs old, C#7)

She also mentioned that she would have like to have more information on where the presentation would take place and how they were organized. In other words, she sought more details on the planning and parameters of their performances.

Question 34 highlights the reasons why respondents did not take part in these cultural/artistic events. The main reason, across all groups, was lack of time and/or opportunity (75%). Transportation and/or overlapping schedules were also among the most frequent comments.

A lack of interest was reported by around 25% of participants, compared with 4% of mission team members, and this percentage was found among athletes, from Greenland, Nunavik and Nunavut. Finally, it is even higher among traditional sportsmen and women, at 46%. This is quite paradoxical, as, as shown above, among sports disciplines, more traditional sportsmen and women attended these events.

Finally, the comments to question 35 aim to highlight what respondents think of the mix between sport and cultural/artistic performances during the Games. In many responses, the balance between sport, culture and art was well appreciated: 62% of mission team members and 77% of participants.

Nevertheless, across all groups, the idea emerged that a lack of time in the schedules prevented participation in artistic/cultural events, either because the timing of competitions overlaps, or because the venues are too far away, or because the transportation system posed a problem. Respondents also commented that more cultural/artistic events should be put on and better promoted (14% of participants & 27% mission team members). In our own experience at the Games (research team members), we did note that the schedule of pop-up events promoted in the AWG published materials did not correspond with the actual performances (venues and timing). Further, some interviewees indicated that they did not know about the cultural/artistic events, while those that were aware claimed they could not attend these performances due to their schedule or the length of time transportation required to get from one venue to another.

Differences among respondent answers: When it comes to the balance between sport and culture, many in all groups seem to agree with the current balance. Nevertheless, most respondents did not take part in these events; the groups of mission team members, cultural performers and traditional sportsmen and women are those with the most participation. Respondents who were unable to take part cited a lack of time and opportunity. Those who did partake mentioned the idea of beautiful shows, a special atmosphere and culture.

Balance between sporting and cultural/artistic activities - Focus Questions

The main constraints reported to partaking in artistic/cultural events were time and opportunity.

- How can host societies design and promote a program that offers sport participants more opportunities to see the cultural performances?
- How can Team/contingent leaders further promote and encourage coaches to include a team activity related to experiencing/watching cultural performances?
- How can the AWGIC encourage and support host societies and Teams/contingents in experiencing the full diversity of the Games' cultural program?

Overall differences among respondent answers for social sustainability: This section on the social sustainability of the AWG reveals that the mission team members, cultural performers, and traditional sportsmen behave quite similarly, in contrast to mainstream sportsmen. The latter seem less appreciative of the cultural aspects of the Games (identity, belonging, shared culture, etc.) and are less involved in the activities proposed around traditional sports and culture/art. What's more, more mission team members, cultural performers and traditional sportsmen and women mixed with the other Teams/contingents. Finally, the balance between traditional sports/mainstream sports and sports/culture was well appreciated by all respondents, even if there were few artistic/cultural performances.

6. Environmental Sustainability

The global sports community has become more environmentally conscious regarding the impact of sport events, partly due to research findings highlighting various ways in which sports and sporting events can negatively impact the environment (Gaffney, 2013; Orr & Ross, 2022; Talavera et al., 2019). Sport organizations have responded to these rising concerns about environmental sustainability. For instance, major sport events have adopted strategies to mitigate their negative environmental impacts (Collins et al., 2009; Stahl et al., 2006). We therefore wanted to investigate, in this section, how and participants and mission team members perceive environmental issues at the AWG: Are the Games sustainable? Should the Games promote environmental protection? Are they aware of actions in favor of sustainable development implemented at the Games?

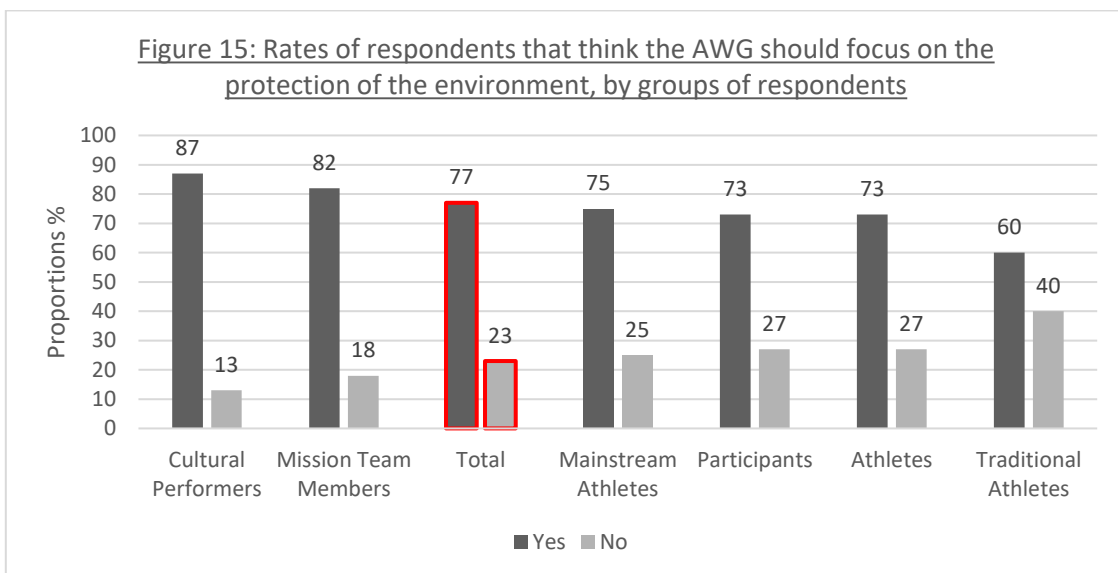
Questions 36/37. Focusing on environmental sustainability

Questions 36/37 seek to measure the extent to which respondents feel it is important for the AWG to invest in environmental protection.

On this point, the first thing we notice is that more mission team members consider that the AWG should focus on the environment (82% versus 73% of other participants). What also stands out for this group is the idea of doing better in the organization of the Games, with less polluting transportation, more sorting, reusable consumables, and less food waste (26% of responses vs. 15% for other participants).

Similarly, the need to focus on the environmental sustainability of the Games is more pronounced in the eyes of cultural performers (88%) than athletes (73%). Conversely, among sportsmen and women, fewer traditional sportsmen and women (60% vs. 75%) feel this way.

There is no difference between Teams/contingents or disciplines on these issues.



Four themes stand out in the analysis of respondent comments in question 37:

- The idea of doing better in the organization of the Games.
- The need to take care of the land, of our ancestors.
- The idea of a single earth, to be saved for future generations.

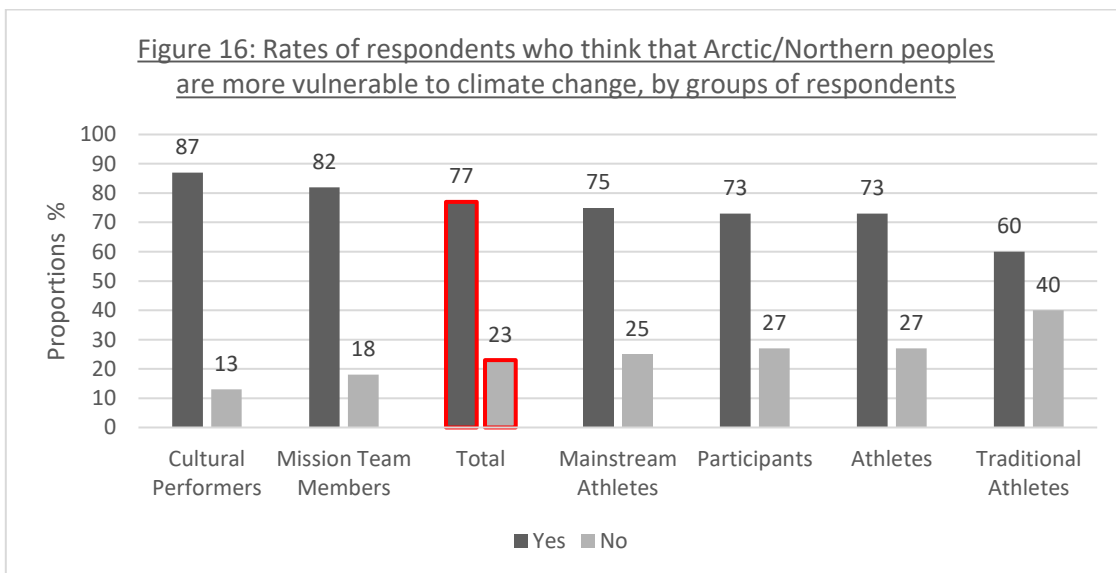
- The idea of an important cause for which everyone must do their bit and set an example.

Differences among respondent answers: Here we see an initial difference with mission team members who seem more invested in the theme of environmental protection, and, above all, who expect the organization to do better. Cultural performers and mainstream sportsmen and women are also more likely to invest in this theme.

Questions 38/39. Environmental protection for Northern peoples

Questions 38/39 ask respondents about their views on environmental protection as Arctic inhabitants.

Answers to question 38 show that most respondents agree that the inhabitants and peoples of the North are more vulnerable to climate change (77%), which was also noted by some of the interview participants. There was no real difference between mission team members and participants, who agreed at 78% versus 76%. However, among participants, cultural performers are more likely to think that people in the North are more vulnerable to climate change (87% vs. 75%). Among sportsmen and women, there was no difference between disciplines, nor between traditional sports (73%) and mainstream sports (76%). Nor is there any notable difference between Teams/contingents.



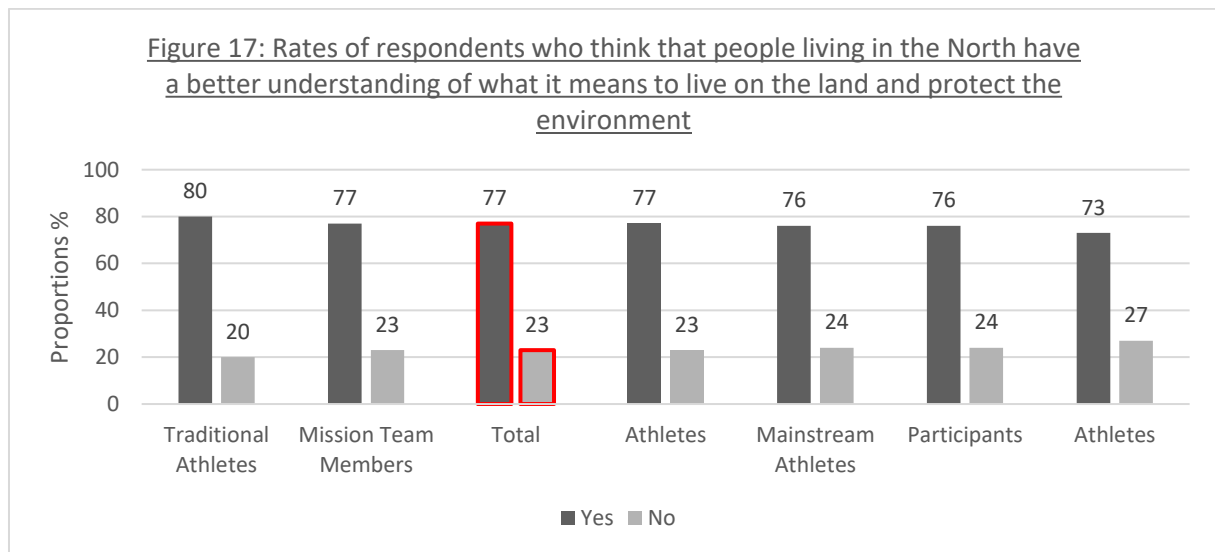
Continuing with question 39, 77% of respondents believe that Arctic people understand better than others what it means to live in nature and protect the environment. Here again, there was no difference between mission team members and participants (76% & 77%). In contrast to the previous question, more sportsmen and women than cultural performers agree (77% vs. 73%), among sportsmen and women we note that sportsmen and women practicing traditional sports also agree slightly more than others (80% vs. 76%). Finally, there is still no difference between Teams/contingents.

It's sharing our story that people know we exist, that we live in the Arctic, that we're part of the world, that we face similar global issues or sometimes we face different issues being in the global north, like climate change. That's more real for us up north. And if maybe people know we're real people and that we exist and they can learn about us through the games and know that these games are connected to the land and hunting, they can be more conscious of their

decisions or what, I guess, political or governmental decisions are made in their society. (Male Arctic Sports athlete from Alaska, R#6)

Rather than providing this perspective in the context of a question on the environment, this Alaska participant evoked climate change when asked about what would happen if the traditional sports became ‘popular and recognizable’ (like hockey or basketball are). That is when he started talking about the importance of the environment for traditional sports athletes and suggested that more knowledge about these sports can bring awareness to climate change.

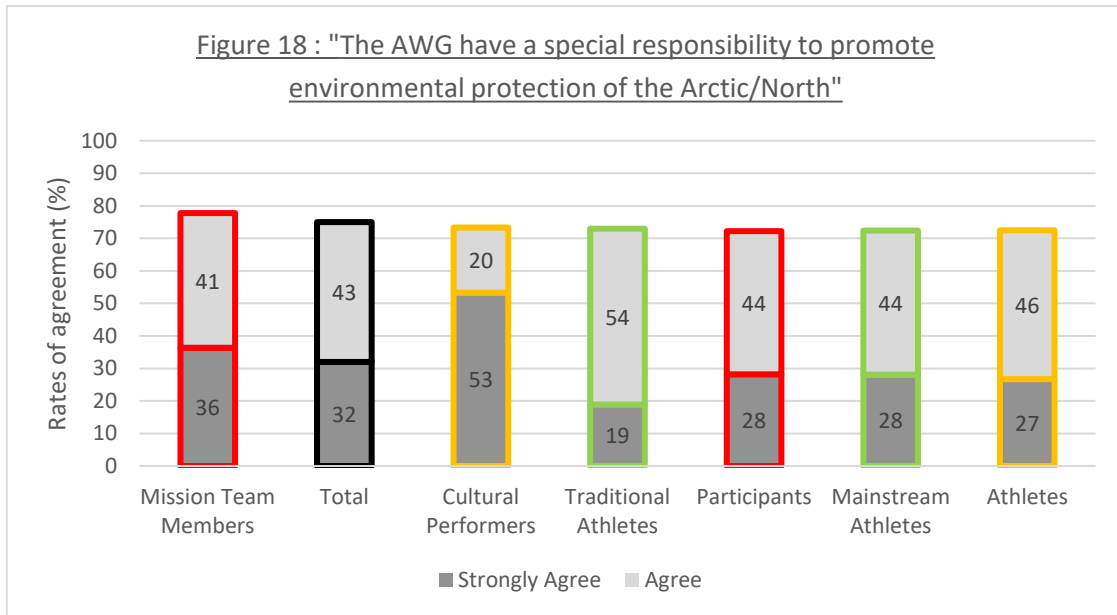
The fact that the traditional sports are closely linked to the land and culture contributes to a recognition of the importance of protecting the environment:



Differences among respondent answers: In this section, there are very few differences between groups of respondents, although we note that mission team members, cultural performers and traditional sportsmen are more likely to think (<5%) of Northern peoples as being more vulnerable to climate change, and as more in tune with living with nature and protecting the environment.

Questions 40/41. AWG responsibility for promoting environmental protection

Questions 40 & 41 seek to quantify the extent to which participants feel the AWG have responsibility in promoting environmental protection in the Arctic and internationally.



Question 40 focuses on the protection of the Arctic environment, and here again we can observe that more mission team members agree overall and strongly agree compared to participants, and that the rate of neutrality is also higher. Similarly, cultural performers are more likely to agree than athletes, and the latter are more likely to be neutral. Among sportsmen and sportswomen, more traditional sportsmen and sportswomen are strongly likely to agree that the AWG is responsible for promoting protection of the Arctic environment. Here again, Teams/contingents and sporting discipline per se are not distinguishing factors.

Some interview participants talked about the fact that the Games can be helpful to remember the importance of landscape and nature, and many referred to the land acknowledgement video produced for the 2023 AWG publicized on the website and projected at the opening and closing ceremonies.

Well, I'm a person that really loves the land. I do not like to see animals hurt, even though I go hunting, but I don't like to see animals get hurt. Like I love my land, like I really do, because I wouldn't want anything done for my land to be harmed, just for the animals and the fish and stuff. I think that video was really good because, I don't know, I don't really have an answer for it. (Female dancer from NWT 2, 18 yrs old, C#3)

Because as I said, part of northern identity is the climate, the region and if that's going to change, I feel it's our responsibility to help preserve it. (Male speed skater from NWT, 17 yrs old, C#4)

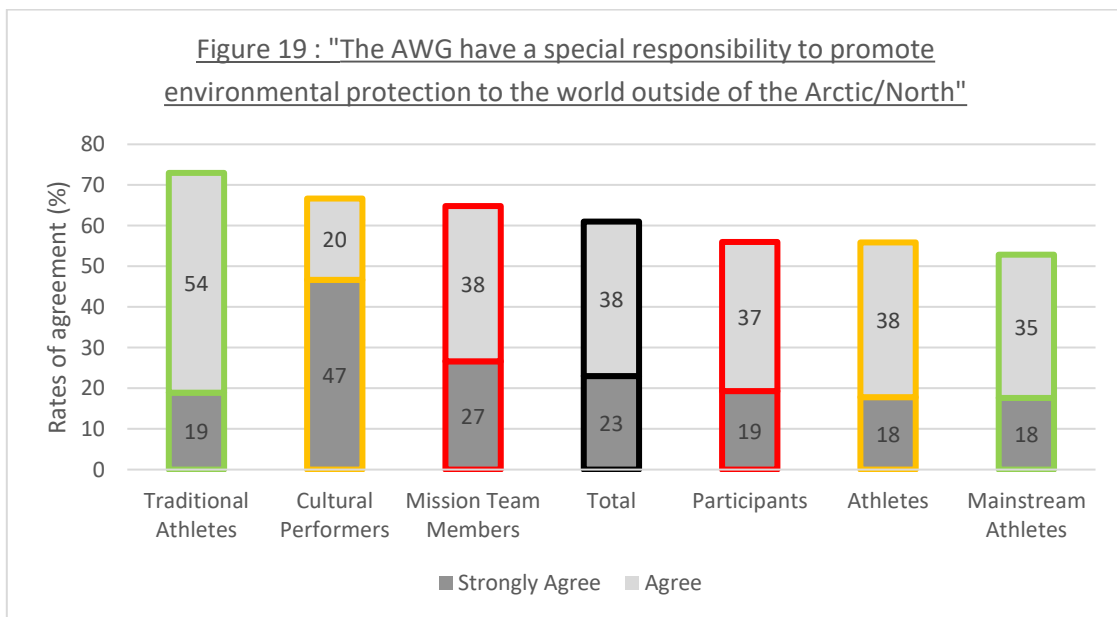
Both participants acknowledge the significance of the Arctic landscape and nature and agree that the games should help to promote it. They both recognize that the responsibility of preserving this environment goes beyond the AWG. Nevertheless, promoting it during the event can raise awareness about the importance of conservation efforts.

So, I kind of feel that in all sports competitions, there should be something where you have to think about the environment and things like that. But yes, I also think that in the Arctic Winter Games, you should do that. Because I feel that there is something like... We have an extra connection with it all, in a way. Because we are like... Or at least, I'm from Denmark, and I don't speak Greenlandic. But then, I know that the people from Greenland, in the old times, those

Indigenous people, and I also think that many of the cultures that are here, have something with... The earth is sacred. Something about their religion, it has a lot to do with nature. So, I think that, if it makes sense in that way. (Female badminton athlete from Greenland, 16 yrs old, R#5)

This athlete believes that the Games have a responsibility to promote the importance of landscape and nature. She thinks that every competition should consider the environment, but it is even more crucial at the AWG as connection to land is central in many of the cultures represented at the games.

Question 41 deals more specifically with the responsibility of the AWG in promoting environmental protection outside the Arctic. The results are broadly similar, with a higher proportion of neutral respondents. Mission team members are still more likely to be strongly in agreement and less likely to be neutral than the very involved. This suggests that they are more aware of the scope of the event, and therefore of the importance of values such as environmental protection. The same observation applies to cultural performers, more of whom (especially those who strongly agree) think that AWG should promote environmental preservation, even outside the Arctic. Unlike the previous question among sportsmen and women, this time the traditional sportsmen and women are more likely to consider this responsibility.

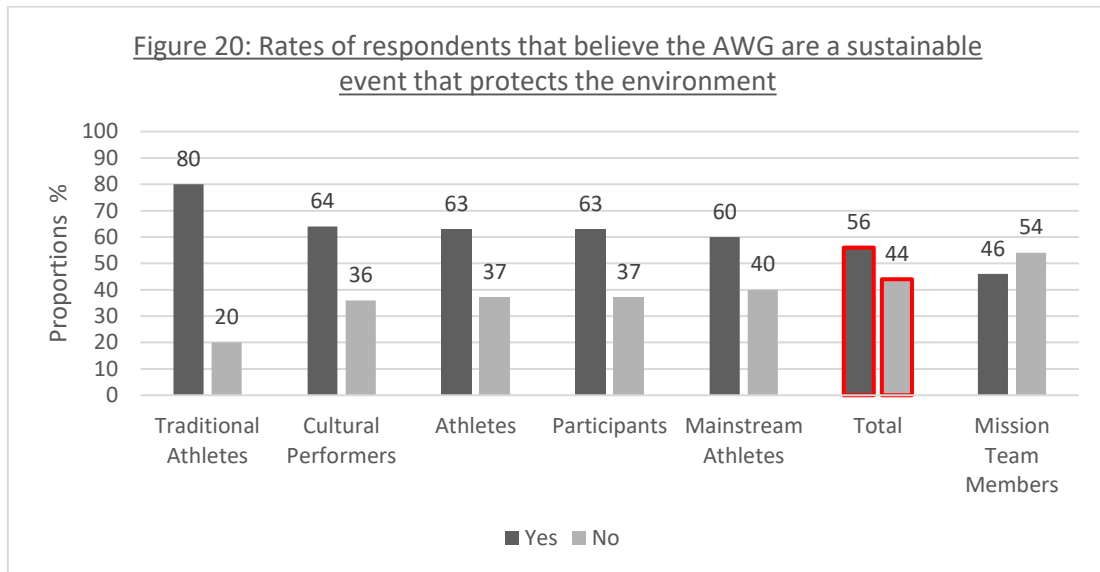


Differences among respondent answers: Mission team members, cultural performers and traditional sportsmen are more likely to see the AWG as responsible for promoting environmental protection in the Arctic, and to a lesser extent outside the Arctic.

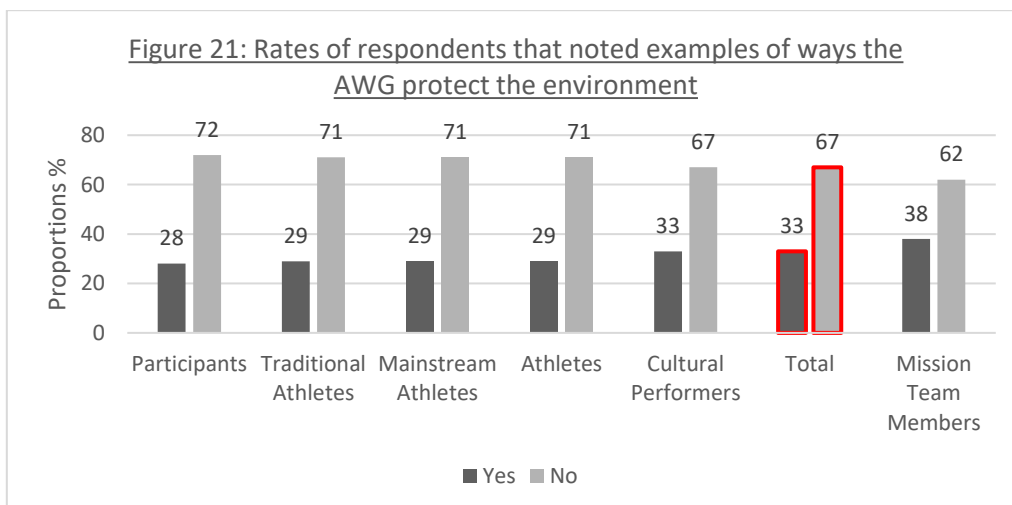
Question 42/43/44. Efficiency of the actions implemented and suggestions

Questions 42, 43 & 44 aim to quantify whether the actions implemented by the AWG in terms of environmental protection and sustainability are sufficient in the eyes of respondents and/or what suggestions they have.

Question 42 shows that 55% of respondents consider the games to be sustainable and environmentally friendly. However, there is a marked disparity between the groups, with many mission team members disagreeing that the games are a sustainable event that protects the environment (54% No), while participants tend to agree (63% Yes). Among participants, there was no difference between cultural performers and athletes, although there was a difference between traditional and mainstream athletes, with the former agreeing more with the idea that the AWG are sustainable (80% vs. 60%). Among the Teams/contingents, there are a few differences, with Nunavut and Yukon respondents believing that the AWG are not sustainable, and Alaska, Alberta, Greenland, Nunavik and Sápmi respondents quite satisfied with the sustainability of the games.⁴



Question 43 shows that only 33% of respondents have observed actions taken by the AWG to protect the environment and make the games sustainable. Mission team members noted more actions to protect the environment than participants (38% vs. 28%). Among the latter, cultural performers were more likely than athletes to have seen one of these actions (33% vs. 29%). Among sports disciplines, only curlers were more likely to have seen such actions. The same applies to the Teams/contingents, with only the Sápmi claiming to have seen such actions.



⁴ The Northwest Territories are neutral (50%/50%).

Among actions aimed at protecting the environment, we noted recurring themes in each group:

- Selective sorting is the first thing noted.
- Reducing the use of plastic by installing water fountains instead of disposable bottles, and reusable cutlery and plates.
- The use of collective buses rather than individual transport.

Interviewed participants all mentioned garbage, recycling and compost bins in the facilities when asked about environmental sustainability at the games. Yet, some did not understand the question or did not seem to care too much about environmental sustainability. A few also mentioned that organizers talked about the importance of acknowledging the land in the opening ceremonies.

I feel like Arctic Winter Games has a role in the environment because in the opening ceremony, they weren't just talking about having fun. They were also talking about acknowledging the land, acknowledging the people, and who lives on it, and we have to keep it and sustain it. So that's what I really like about it, and I think they played a role because they showed awareness. (Male futsal player from Nunavut 3, 15 yrs old, C#1)

The next interview excerpt answered a question about what the AWG can do to be more respectful about the environment. The athlete highlighted an underlining pretence of environmental sustainability when the Games are held in Wood Buffalo (Fort McMurray is the urban centre of the regional municipality of Wood Buffalo, home of the oil sands industry). He felt the Games were not sincerely respectful of nature and evoked the impact on the environment of the pins and the disposable food that were not really environmentally friendly.

I don't know. Here in Fort McMurray, it's also like a pretty big oil center, which I don't know, if it really affects my view of the Arctics [AWG] because like I'm happy to be here and stuff, but it is sort of a thing where it's like a bit hypocritical, the Arctics [AWG]. I find that a lot of societies are hypocritical in that way though because a lot of people (inaudible) for climate change. At the opening ceremony they were talking about respecting the environment and all that, and these were people from Fort McMurray, and they're like this is a huge oil center. So, it's a bit of a hypocritical statement when they say that I find (Male cross-country skier from Yukon, 16 yrs old, J#5)

While most survey and interview answers revealed a leaning towards a need for greater efforts on the part of the overall AWG to improve their environmental sustainability practices, they also elicited contradictory answers and comments that show the relevance of further education on environmental sustainability.

Differences among respondent answers: Many mission team members feel that these Games are not sustainable, and to a lesser extent, mainstream sportsmen and women also agree with this statement (40%). However, only a third of respondents had observed any actions taken to protect the environment (sorting, plastic reduction, collective bus, reusable cutlery, etc.), and even more so, mission team members were the most likely to have seen any. However, all respondents insist on the need to reduce bus travel times by choosing closer locations, to reduce pollution and, by the same token, organizational problems. Finally, sorting and food wastage could be improved, by providing better information on environmental issues.

Overall differences among respondent answers for environmental sustainability: In this section on environmental sustainability, we continue to see a split between mission team members, cultural performers and traditional sportsmen and women on the one hand, and mainstream sportsmen and women on the other. The latter are less concerned about the AWG responsibility in promoting and protecting the environment. Finally, there is also a difference between mission team members and participants, the former being more observant of the eco-gestures implemented during the games, but also more demanding of the organization, which they ask to do better.

The Arctic region is facing environmental challenges due to climate change, changes in biological diversity, and the accumulation of toxic substances, which encompass significant warming, increased precipitation, shifts in sea-ice dynamics, alterations in climatic variability, and the frequency of extreme weather events (Ford, 2005; Johannessen et al., 2004; Krupnik & Jolly, 2002; McBean et al., 2005; Nguyen, 2020). Moreover, major rivers are flowing more, the open water season is longer, and storms are different in intensity and direction (Overduin et al., 2014). In addition to these changes, the Arctic ice is thinning and melting rapidly, indicating a steady and ongoing diminishment. Consequently, some scientists believe that the likelihood of an ice-free Arctic is approaching more rapidly (Emmerson, 2010). Studies showed that since 1880, the global average temperature has gone up by about 1.2°C, but the Arctic has seen a rise of about twice that much (Zhang et al., 2019). It is expected that the Arctic climate will change even more, reaching 4°C to 5°C above the levels of the late 1900s before the middle of this century (Nguyen, 2020; Overland et al., 2019). These changes in the Arctic have significant implications for the region's ecosystem, including the habitat of polar bears (Emmerson, 2010). Therefore, Arctic residents, especially Indigenous peoples, are concerned about the significant risks that these changes pose to their communities and livelihoods (Ayles et al., 2002; Nguyen, 2020; Overland et al., 2019; Simon, 2004). Such changes have affected not only the accessibility of hunting areas, but also infrastructure stability and cultural heritage sites throughout the Arctic (Couture et al., 2002; Ford and Smit, 2004; Fox, 2002; Shaw et al., 1998).

Considering the challenges faced by the Arctic, there is a growing call for environmental sustainability in the region. This call necessitates proactive measures to address the changing conditions. One such measure is to understand the environmental impacts of all industries (including sports events) and implement initiatives to mitigate ecological harm. While sports events have demonstrated positive effects on the environmental sustainability by raising awareness, advocating green principles, and temporarily improving air quality (Chen et al., 2013; Karamichas, 2015; Mol, 2010; Wang et al., 2009), they also carry a substantial environmental footprint, including increased energy consumption, water usage, air pollution, waste generation, noise pollution, and heightened carbon emissions (Chard & Mallen, 2012; Deccio & Baloglu, 2002; Dolf & Teehan, 2015; Mallen et al., 2010; Wicker, 2019).

Due to the detrimental effects of sport events on the environment, the sports community must adopt a stance of environmental responsibility. Many sport events have responded to these rising concerns by implementing various sustainability initiatives. This is especially evident in the context of major sport events, such as the Olympic Games and FIFA's World Cup, which have become more aware of their negative environmental impacts and have adopted strategies to mitigate them (Collins et al., 2009; Stahl et al., 2006). These strategies encompass the construction of energy-efficient and renewable-powered facilities, resource consumption reduction, carbon emissions offsetting, utilization of renewable energy sources, rainwater collection, and the implementation of recycling and

composting programs (Aquino & Nawari, 2015; Collins et al., 2009; Stahl et al., 2006). Additionally, they involve measures for waste reduction and water conservation, efforts to minimize the carbon footprint associated with both spectator and team travel, and the enforcement of stringent policies to control air pollution (Chen et al., 2013; Dolf & Teehan, 2015; Ross & Leopkey, 2017).

The AWG has also endeavored to enact various ecological initiatives, which are outlined in Appendix 14 - Environmental initiatives undertaken by the AWG. Our document analysis reveals that these initiatives can be categorized into eight distinct and interrelated domains. Firstly, the AWG has made significant strides in developing an eco-friendly food system, focusing on reducing food waste and packaging and providing sustainable food. Additionally, they have placed considerable emphasis on fostering a sustainable transportation system, which includes the integration of efficient and environmentally conscious transportation solutions, such as providing and encouraging public transportation, etc. Climate and energy management have also been at the forefront of their efforts, encompassing strategies to reduce carbon emissions and enhance energy efficiency. Furthermore, the AWG has demonstrated a commitment to preserving the outdoor environment, embracing measures for the protection of natural habitats and ecosystems. Notably, their commitment to sustainable waste management is evident in various practices, including composting, recycling, paper use reduction, minimizing plastic consumption, and the provision of water filling stations. Effective management and planning, including activities such as having a sustainability plan, analyzing environmental risks, conducting various meetings, etc., have played a pivotal role in orchestrating these initiatives. Equally vital is their dedication to education and awareness, which serves to inform and engage participants and the broader community. Finally, human resources development stands as a foundational component in driving these environmental initiatives, ensuring their continuity and success. This comprehensive categorization provides a structured framework for understanding the multifaceted approach taken by the AWG in their pursuit of environmentally responsible practices.

Although the AWG demonstrated a commitment to environmental initiatives across eight distinct sections, a clear pattern emerges, highlighting a primary emphasis on three core categories: sustainable waste management, management and planning, and education and awareness. This concentration underscores the pivotal role these categories play in shaping the sustainability landscape for host societies, underscoring their significance in the broader context of the Arctic Winter Games' environmental dedication. Conversely, the outdoor environment of the AWG activities received relatively less attention, suggesting that this area was not a priority for host societies.

In comparing the host societies' emphasis on different sustainability domains, a distinct pattern emerges. This comparative analysis sheds light on the varying priorities and evolving interests of different host societies in addressing sustainability during the Arctic Winter Games. Several host societies, namely AWG 2004, 2012, 2016, 2020, and 2023, implemented various initiatives, highlighting a consistent interest in promoting eco-friendly food systems. On the other hand, nearly all host societies reported the provision of public transportation, indicating a common and recurrent initiative. Moreover, additional initiatives in this domain were observed in AWG 2012, 2020, and 2023. However, the initiatives reported in the climate and energy management area predominantly belong to the host societies AWG 2020 and 2023, indicating a relatively recent focus on climate and energy management with limited emphasis in earlier years. Similarly, the outdoor environment received the least attention, with only two initiatives reported by AWG 2020 and 2023. This suggests that interest in this domain

increased following AWG 2018. In contrast, sustainable waste management garnered the most attention, with most host societies actively implementing initiatives (AWG 2002, 2004, 2012, 2014, 2016, 2018, 2020, and 2023). Furthermore, although various host societies were active in the management and planning domains of sustainability (AWG 2004, 2012, 2014, 2020, and 2023), the highest number of initiatives were observed in AWG 2020, indicating a notable interest in this area by the host society Yukon 2020. Additionally, four host societies (AWG 2014, 2018, 2020, and 2023) made efforts to be active in the education and awareness domain, underscoring the importance such actions in youth events. Finally, AWG 2004, 2014, 2018, and 2020 were notably engaged in human resources initiatives, reflecting their commitment to this aspect of sustainability.

We retrieved host society archives spanning from 2002 to 2018 from the AWGIC website. However, the web archives for the 2004 and 2008 AWG editions did not contain the final host society reports. Furthermore, we had access to the archives for the 2020 AWG, and we obtained the initial draft of the final report for the 2023 AWG. Consequently, it should be noted that the analysis offered here draws on other documents available for the 2004 and 2008 AWG editions, as well as any AWG editions prior to 2002. The comprehensive analysis of available documents shows that eight host societies (specifically in the years 2002, 2004, 2012, 2014, 2016, 2018, 2020, and 2023) have undertaken ecological initiatives. Notably, among these host societies, some established dedicated divisions or committees with a specific environmental focus (in 2004, 2012, 2014, 2020, and 2023). A point of interest pertains to the geographic locations of the AWG, with the 2006 edition hosted in Alaska and the 2010 edition in Alberta. Notably, an analysis of historical records reveals that neither of these instances featured dedicated environmental initiatives. Nevertheless, when Alaska hosted the AWG in 2014 and Alberta in 2023, a marked shift in their approach towards environmental sustainability became apparent. These subsequent editions saw a substantial documented commitment to ecological responsibility, characterized by the implementation of a diverse range of environmentally conscious actions and the establishment of a dedicated committee entrusted with the task of orchestrating a green event. Hence, the empirical data underscores the progressive prioritization of ecological sustainability among AWG hosts.

Among the host societies that reported their ecological initiatives, AWG 2020 in Whitehorse (Yukon) emerged as the most proactive host. Despite the unfortunate cancellation of the event due to the COVID-19 pandemic, an examination of their archives revealed a robust plan that underscored their unwavering commitment to environmental sustainability. The depth of their initiatives spanned across various categories, encompassing eco-friendly food systems, sustainable transportation systems, climate and energy management, outdoor environmental considerations, sustainable waste management, management and planning, education and awareness, as well as human resources. Had the event occurred, the AWG 2020 had the potential to set a precedent as the most environmentally sustainable edition in the history of the AWG. Moreover, the 2012 AWG, which also took place in Whitehorse (Yukon), exhibited a commendable commitment to environmental sustainability. Their archives indicated the existence of a dedicated green committee and the implementation of various initiatives, which highlighted their enduring dedication to eco-conscious practices. Considering these insights, future host societies can draw valuable lessons from the environmental strategies employed by Whitehorse (Yukon).

Although the AWG has tried to show its commitment to environmental sustainability, still there are other doors that can be opened to be more responsible for ecological stewardship. AWG 2023 participants and mission team members proposed different initiatives in Question 44 of our survey that can be summarized in the following Figure 22. The details related to these themes can be found in Appendix 15 - Environmental participants and mission staff suggestions.

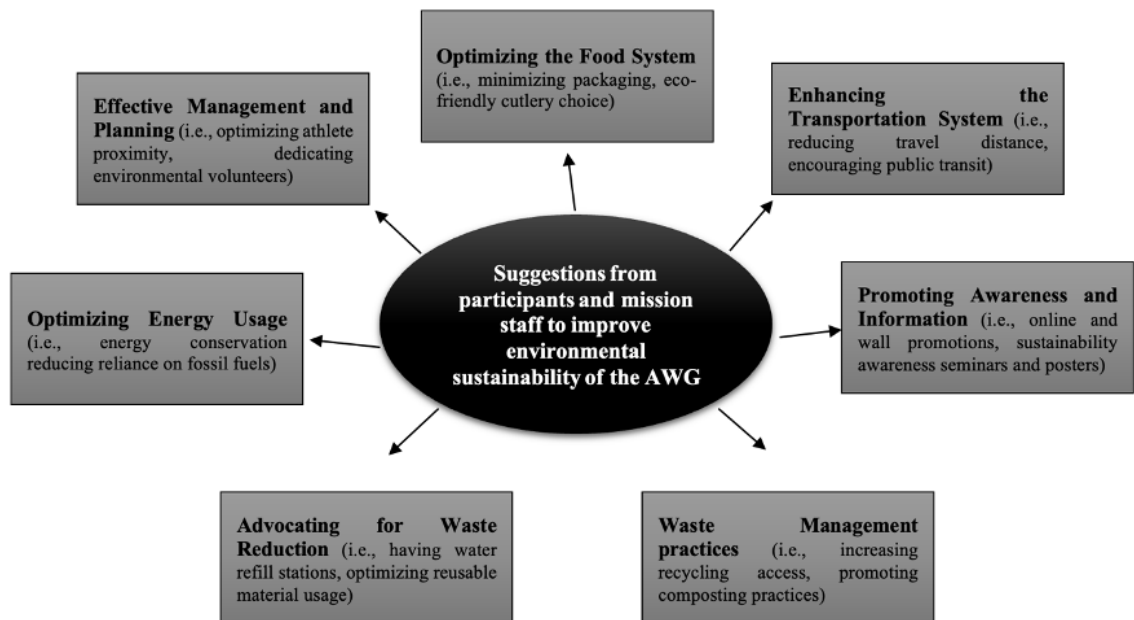


Figure 22. Suggestions provided by participants and mission staff to improve environmental sustainability of the AWG

The survey and interview data reveal that participants and mission team members proposed a set of recommendations aimed at improving the AWG's environmental sustainability. These suggestions coalesced into seven distinct categories, namely optimizing the food system, enhancing the transportation system, promoting awareness and information dissemination, waste management practices, advocating for waste reduction, optimizing energy usage, and emphasizing effective management and planning. Among these seven categories, the most prominent emphasis was placed on "Promoting Awareness and Information," as evidenced by a total of 20 suggestions. In contrast, the category receiving the least attention was "Optimizing Energy Usage," with only six suggestions. Upon an examination of the environmental initiatives undertaken by previous host societies, it becomes apparent that they have indeed implemented strategies related to these seven categories. While these categories have been addressed, it is noteworthy that there are several new suggestions derived from the feedback of participants and mission staff. These novel recommendations present an opportunity for future hosts to enrich their environmental sustainability programs by incorporating these innovative ideas.

While it is evident that the AWG and host societies have made commendable strides in their environmental initiatives, there are opportunities for improvement in several key areas. First, future host societies and the AWGIC can benefit significantly from the insights and suggestions provided by participants and mission team members. These valuable perspectives from those directly involved in the Games can offer practical, on-the-ground feedback that can help fine-tune existing initiatives and

identify new opportunities for enhancing sustainability. By actively seeking input from participants and mission team members, the AWGIC and host societies can benefit from their experience and foster greater buy-in to effectively implement various strategies. They can use this input to address specific challenges and make necessary adjustments to ensure that sustainability practices are not only robust but also tailored to the unique needs and circumstances of each edition of the games. This collaborative approach can lead to more effective, responsive, and dynamic environmental initiatives. Second, the AWGIC could play a pivotal role in filling existing policy gaps and guidance. By providing clearer, standardized guidelines for sustainability initiatives across various domains, the AWGIC can facilitate a more coordinated and comprehensive approach to environmental responsibility for all host societies. This could include establishing minimum standards for sustainability practices and encouraging host societies to adapt and enhance their initiatives accordingly. Third, the 2020 AWG, with its comprehensive plan, serves as a valuable model that can be reproduced and adapted to new circumstances and environments. The success of this approach should inspire future host societies to invest in similarly ambitious and well-rounded sustainability programs. However, it is essential to encourage them to continually innovate and improve upon these initiatives, considering the evolving best practices in environmental sustainability. Finally, a crucial avenue for growth lies in strengthening the AWGIC’s relationships with Indigenous communities in the Arctic regions. These communities have a deep understanding of the northern landscape and environment, and their traditional knowledge can be invaluable in shaping the ecological practices of the games. Collaborating with indigenous communities not only enhances the authenticity of the AWG but also enriches sustainability efforts by integrating traditional ecological wisdom.

Environmental Sustainability – Focus Questions

Previous host societies have already engaged in a rigorous and thoughtful exercise to formulate and develop strategies to reduce the environmental footprint of the AWG. There is also an expectation among participants, but more so among mission team members, that organizers pay greater attention to the environmental sustainability of the AWG.

To feed this ongoing reflection among all AWG stakeholders to integrate a greater concern for environmental sustainability in the planning and implementation of all activities related to the Games, we provide a summary of existing and potential initiatives in Appendix 14 - Environmental initiatives undertaken by the AWG.

- How can the AWGIC guide host societies and Teams/contingents? Should new guidelines be formulated?
- How can the AWGIC support host societies’ efforts in adapting local practices and parameters to enhance the environmental sustainability of the Games?
- How can host societies leverage local initiatives and opportunities to enhance the environmental sustainability of the overall Games process?
- How can Teams/contingents collaborate in reducing the environmental footprint of such a large gathering?

7. References

- Allain, G. (2007). "Genèse, structure et bilan d'une manifestation sportive et identitaire pour la jeunesse acadienne : les Jeux de l'Acadie dans les Provinces maritimes du Canada," In J.-P. Augustin, C. Dallaire (Ed.), *Les enjeux du sport et des jeux dans la francophonie canadienne*, p. 95-137. MSHA.
- Aquino, I., & Nawari, N. O. (2015). Sustainable design strategies for sport stadia. *Suburban Sustainability*, 3(1), 3.
- AWG 2023. (n.d.) *About Us*. Arctic Winter Games 2023. <https://awg2023.org/about-us/>
- AWGIC (2018/2023). Arctic Winter Games Corporation/International Committee. URL: www.arcticwintergames.org/Role_Purpose_Values.html
- AWGIC (2018/2023a). 'Arctic Winter Games'. URL: <https://arcticwintergames.org/index.html>
- AWGIC (2018/2023b). 'Glossary of Terms'. URL: https://arcticwintergames.org/HOSTING/Glossary_of_Terms.pdf
- AWGIC, 2018/2023c). 'About the Arctic Winter Games'. URL: <https://arcticwintergames.org/About.htm>
- AWGIC (2020a). '50 Years of Arctic Winter Games, 1970-2020'. Whitehorse, Yukon.
- AWGIC (2020b). 'Arctic Winter Games Policy Manual'. URL: <https://arcticwintergames.net/Hosting-and-Sport-Technical-Info/Policy-Manual>
- AWGIC (2020c). 'Arctic Winter Games International Committee Bid Manual'. URL: <https://arcticwintergames.net/Hosting-and-Sport-Technical-Info/Bid-Manual>
- AWGIC (2023a). 'Background & History'. URL: <https://arcticwintergames.net/About-AWG/Background-And-History>
- AWGIC (2023b). 'Arctic Winter Games Theme Songs'. URL: <https://arcticwintergames.net/AWG-Theme-Songs>
- Allen K.A., Kern M.L., Rozek C.S., McInerney D., & Slavich G.M. (2021). Belonging: A Review of Conceptual Issues, an Integrative Framework, and Directions for Future Research. *Australian Journal of Psychology*, 73(1), 87-102.
- Ayles, G. B., Bell, R., & Fast, H. (2002). [Introduction]: The Beaufort Sea Conference 2000 on the Renewable Marine Resources of the Canadian Beaufort Sea. *Arctic*, iii-v.
- Bauman, Z. (2013). *Community: Seeking safety in an insecure world*. John Wiley & Sons.
- Bell, D. (2003). *Encyclopedia of International Games*. McFarland & Company.
- Bernasconi, G. (2011). Les Jeux régionaux, manifestations de proximité. In T. Terret (Ed.), *Histoire et géopolitique du sport* (pp. 271-287). L'Harmattan.
- Board of Directors, Arctic Winter Games (1975). 'Preliminary Submission' ['Historical Report on First Three AWG'], Arctic Winter Games Corporation Archives, Yukon Archives in Whitehorse, COR 512, File 10.

- Brewer, B., Van Raalte, J. L., & Linder, D. (1993). Athletic identity: Hercules' muscles of Achilles' heel? *International Journal of Sports Psychology*, 24, 237–254
- Butler, R. W., & Hinch, T. D. (Eds.). (2007). *Tourism and Indigenous Peoples*. Thomson Business Press.
- Camiré, M., Newman, T. J., Bean, C., & Strachan, L. (2022). Reimagining positive youth development and life skills in sport through a social justice lens. *Journal of Applied Sport Psychology*, 34(6), 1058-1076.
- Capitaine, B. (2012). *Autochtonie et modernité: l'expérience des Innus au Canada* [Unpublished doctoral dissertation]. Ecole des Hautes Etudes en Sciences Sociales, Paris.
- Carless, D., & Douglas, K. (2009). 'We haven't got a seat on the bus for you' or 'all the seats are mine' : Narratives and career transition in professional golf. *Qualitative Research in Sport and Exercise*, 1(1), 51-66. <https://doi.org/10.1080/19398440802567949>
- Carless, D., & Douglas, K. (2013). 'In the Boat' but 'Selling Myself Short' : Stories, Narratives, and Identity Development in Elite Sport. *Sport Psychologist*, 27(1), 27-39.
- Cécillon, M. (2007). Les Jeux du Québec. In J.-P. Augustin, & C. Dallaire (Eds.), *Jeux, sports et francophonie. L'exemple du Canada* (pp. 173-178). MSHA.
- Chard, C., & Mallen, C. (2012). Examining the linkages between automobile use and carbon impacts of community-based ice hockey. *Sport Management Review*, 15(4), 476-484.
- Chatziefstathiou, D. (2012). Olympic education and beyond: Olympism and value legacies from the Olympic and Paralympic Games. *Educational Review*, 64(3), 385-400. <https://doi.org/10.1080/00131911.2012.696094>
- Chen, Y., Jin, G. Z., Kumar, N., & Shi, G. (2013). The promise of Beijing: Evaluating the impact of the 2008 Olympic Games on air quality. *Journal of Environmental Economics and Management*, 66(3), 424-443.
- Coakley, J. (2011). Youth sports: What counts as "positive development?" *Journal of Sport and Social Issues*, 35, 306–324.
- Collins, A., Jones, C., & Munday, M. (2009). Assessing the environmental impacts of mega sporting events: Two options?. *Tourism management*, 30(6), 828-837.
- Couture, R., Robinson, S., Burgess, M., & Solomon, S. (2002). Climate change, permafrost, and community infrastructure: a compilation of background material from a pilot study of Tuktoyaktuk, Northwest Territories. Geological Survey of Canada, Open File, 3867(1).
- Créquy, A. (2014), *Identité, tourisme et interculturalité au Groenland*. L'Harmattan.
- Dallaire, C. (2003). Sport's impact on the francophoneness of the Alberta Francophile Games (AFG). *Ethnologies*, 2, 33-58. <https://doi.org/10.7202/008047ar>
- Dallaire, C. (2004). 'Fier de qui on est... nous sommes francophones!' L'identité des jeunes aux Jeux franco-ontariens. *Francophonies d'Amérique*, (18), 127–147. <https://doi.org/10.7202/1005356ar>
- Dallaire, C. (2007). Les festivals sportifs et la reproduction des communautés minoritaires: Une analyse comparative des jeux francophones au Canada. In J.-P. Augustin, & C. Dallaire (Eds.), *Les enjeux du sport et des jeux dans la francophonie canadienne* (pp. 139-172). MSHA.
- Dallaire, C. (avec la collaboration de R. Khalife, A. Lafond et M.-H. Villeneuve, V. Boily et S. MacKay) (juin 2010). *Rapport de recherche. Les Jeux de la francophonie canadienne 2008 : Renforcer l'appartenance francophone chez les jeunes*. Rapport final de recherche remis le 1 juin 2010 à la Fédération canadienne de la jeunesse canadienne-française. 166 p.

- Da Silva, E. (2008). Être "arctique": identité et territoire. In V. Appel, C. Bando, H. Boulanger, G. Crenn, V. Croissant, & B. Toullec (Eds.), *La mise en cultures des territoires* (pp. 75-83). Presses Universitaires de Nancy.
- Deccio, C., & Baloglu, S. (2002). Nonhost community resident reactions to the 2002 Winter Olympics: The spillover impacts. *Journal of travel research*, 41(1), 46-56.
- Delsahut, F. (2020). Les World Eskimo-Indian Olympics, Fairbanks Alaska, 1961. *Gazette Coubertin*, 63-64, 27-29.
- Dolf, M., & Teehan, P. (2015). Reducing the carbon footprint of spectator and team travel at the University of British Columbia's varsity sports events. *Sport Management Review*, 18(2), 244-255.
- Douglas, K., & Carless, D. (2006). Performance, Discovery, and Relational Narratives Among Women Professional Tournament Golfers. *Women in Sport and Physical Activity Journal*. 15(2), 14-27.
- Douglas, K., & Carless, D. (2009). Abandoning The Performance Narrative : Two Women's Stories of Transition from Professional Sport. *Journal of Applied Sport Psychology*, 21(2), 213-230. <https://doi.org/10.1080/10413200902795109>
- Emmerson, C. (2010). *The future history of the Arctic* (ed.). New York: Public Affairs.
- Férez, S., Ruffié, S., & Héas, S. (2008). Le sport dans la communauté. Expressions minoritaires et appropriations des espaces sportifs: entre rejet et revendication de la normalité sportive, *GéoGraphie*. <https://halshs.archives-ouvertes.fr/halshs-00346300>
- Férez, S., Ruffié, S., & Héas, S. (2018). Recognizing geographic and cultural alterity through sport? Institutionalizing the Arctic Games (1967-2004). *Diagoras: International Academic Journal on Olympic Studies*, 2, 27-46. <http://www.diagorasjournal.com/index.php/diagoras/article/view/20>
- Ferrand, A., & Chappelet, J.-L. (2015). "Smaller is beautiful": vers de plus petits événements sportifs? *Reflets et perspectives de la vie économique*, 3(LIV), 111-125. <https://doi.org/10.3917/rpve.543.0111>
- Field, R., & Kidd, B. (2016). Canada and the Pan-American Games. *The International Journal of the History of Sport*, 33(1-2), 217-238. <https://doi.org/10.1080/09523367.2016.1152960>
- Ford, J. (2005). Living With Climate Change in the Arctic Global warming tests traditional ways. *World Watch*, 18(5), 18.
- Ford, J. D., Smit, B., Wandel, J., Allurut, M., Shappa, K., Ittusarjuat, H., & Qrunnut, K. (2008). Climate change in the Arctic: current and future vulnerability in two Inuit communities in Canada. *Geographical Journal*, 174(1), 45-62.
- Forgues, E., Thompson, M., Dallaire, C. et E. M. Doucet (2018). Les Jeux de la francophonie canadienne : épanouissement, identité et engagement de la jeunesse d'expression française au Canada. Rapport de recherche soumis à la Fédération de la jeunesse canadienne française. Moncton-Dieppe, Nouveau Brunswick : L'Institut canadien de recherche sur les minorités linguistiques, 115 p.
- Fox, S. (2002). These are things that are really happening: Inuit perspectives on the evidence and impacts of climate change in Nunavut. *The Earth is Faster Now: Indigenous Observations of Arctic Environmental Change*, Arctic Research Consortium of the United States, Fairbanks, USA, 12-53.

- Fuchs, J. (2023). 'What Future Model for International Sports Events? The Case of the Arctic Winter Games', *European Journal for Sport and Society* 20:1, 38-56.
- Jose, P. E., Ryan, N., & Pryor, J. (2012). Does social connectedness promote a greater sense of well-being in adolescence over time? *Journal of Research on Adolescence*, 22(2), 235-251.
- Gaffney, C. (2013). Between discourse and reality: The un-sustainability of mega-event planning. *Sustainability*, 5(9), 3926-3940. <https://doi.org/10.3390/su5093926>
- Getz, D., & Page, S. J. (2016). Progress and prospects for event tourism research. *Tourism Management*, 52, 593-631. <http://dx.doi.org/10.1016/j.tourman.2015.03.007>
- Giles, A. R. (2005). The acculturation matrix and the politics of difference: women and Dene Games. *The Canadian Journal of Native Studies*, XXV(1), 355-372.
- Handstad, D. V., Parent M., & Houlihan B. (Eds.). (2014). *The Youth Olympic Games*. Routledge.
- Handstad, D. V., Parent, M., & Kristiansen, E. (2013). The Youth Olympic Games: the best of the Olympics or a poor copy? *European Sport Management Quarterly*, 13(3), 315-338. <https://doi.org/10.1080/16184742.2013.782559>
- Hanson, K. H., & Randazzo, S. (Tusaagvik) S. (2012). Survival then, Survival now. *International Journal of Sport & Society*, 2(4), 83-96.
- Hayes, G., & Karamichas, J. (2012). Conclusion. Sports mega-events: disputed places, systemic contradictions and critical moments. In G. Hayes, & J. Karamichas (Eds.), *Olympic games, mega-events and civil societies: globalization, environment, resistance* (pp. 249-261). Palgrave Macmillan.
- Heine, M. (1997). Colliding identities in Arctic Canadian sports and Games. *Sociological Focus*, 30(4), 357-372. <https://doi.org/10.1080/00380237.1997.10571086>
- Heine, M. (2005). "It's a competition, not a show !" Traditional games at Arctic Winter Games. *Stadion*, 31(1), 145-159.
- Heine, M. K. (2013). Performance indicators: Aboriginal games at the Arctic Winter games. In J. Forsyth & A. R. Giles (Eds), *Aboriginal peoples and sport in Canada: Historical foundations and contemporary issues* (pp. 160-181) UBC Press.
- Hinch, T., & De La Barre, S. (2005). Culture, sport and tourism: the case of the Arctic Winter Games. In J. Higham (Ed.), *Sport Tourism Destinations. Issues, opportunities and analysis* (pp. 260-272). Elsevier.
- Hinch, T., & Ramshaw, G. (2014). Heritage sport tourism in Canada, *Tourism Geographies: An International Journal of Tourism Space, Place and Environment*, 16(2), 237-251. <https://doi.org/10.1080/14616688.2013.823234>
- Hinchey, G. (2014). 'Arctic Winter Games Legacy Project'. URL: <https://awglegacy.wordpress.com/>.
- Hinchey, G. (2014b). 'AWG Legacy podcast series episode 2: Samuel Lankford'. URL: <https://awglegacy.wordpress.com/2014/03/13/episode-2-samuel-lankford/>.
- Hinchey, G. (2014c). 'The Big Shift'. URL: <https://awglegacy.wordpress.com/2014/02/20/the-big-shift/>.
- Hinchey, G. (2014d). 'Where have all the Adults Gone?' URL: <https://awglegacy.wordpress.com/2014/03/26/where-have-all-the-adults-gone/>
- Hinchey, G. (2014e). 'Genesis'. URL: <https://awglegacy.wordpress.com/2014/03/09/genesis/>

- Hinchey, G. (2014f). 'Northern Lenses'. URL: <https://awglegacy.wordpress.com/2014/02/01/northern-lenses/>
- Iwasaki, Y., Springett, J., Dashora, P., McLaughlin, A. M., McHugh, T. L., & Youth 4 YEG Team. (2014). Youth-guided youth engagement: Participatory action research (PAR) with high-risk, marginalized youth. *Child & Youth Services, 35*(4), 316-342.
- Johannessen, O. M., Bengtsson, L., Miles, M. W., Kuzmina, S. I., Semenov, V. A., Alekseev, G. V., ... & Cattle, H. P. (2004). Arctic climate change: observed and modelled temperature and sea-ice variability. *Tellus A: Dynamic Meteorology and Oceanography, 56*(4), 328-341.
- Karamichas, J. (2015). Sport mega-event hosting and environmental concern: from Sydney to Rio. *Journal of Environmental Sciences, 1*(1), 22-39.
- Kope, J., & Arellano, A. (2016). Resurgence and critical youth empowerment in Whitefish River First Nation. *Leisure/Loisir, 40*(4), 395-421.
- Krupnik, I., & Jolly, D. (2002). The Earth Is Faster Now: Indigenous Observations of Arctic Environmental Change. *Frontiers in Polar Social Science*. Arctic Research Consortium of the United States, 3535 College Road, Suite 101, Fairbanks, AK 99709.
- Lankford, J., Kooiman, W., Fleming, K., Flack, T., Lankford, S., Canan, R., & Miklosovic, S. (2015). The Impact of the Arctic Winter Games: A Social Capital Perspective. World Leisure, Recreation Research & Service, and Northwest Territories.
- Lankford, S. V. & Bakken, D. (2012). Arctic Winter Games 2012 -- Whitehorse, Yukon, Canada. University of Northern Iowa.
- Lankford, S. V. & Neal, L.L. (1998). The 1998 Arctic Winter Games: A Study of the Benefits of Participation. World Leisure Professional Services.
- Lankford, S., Neal, L., Bonwell, C., Cunningham, A., & Walter, S. (2010) 2010 Arctic Winter Games - Grande Prairie, Alberta, Canada: Personal, Social, and Community Benefits of Participation. World Leisure Professional Services.
- Lankford, S., Neal, L., & Lankford, J. (2014) Arctic Winter Games 2014 – Fairbanks, Alaska, United States. University of Northern Iowa.
- Lankford, S. V., Neal, L.L. & Okata, Y. (2000). 2000 Arctic Winter Games - Whitehorse: Personal and Social Benefits of Participation. World Leisure Professional Services.
- Lankford, S., Neal, L., Sanders, K., & Bozek, J. (2002) 2002 Arctic Winter Games -- Nuuk, Greenland and Iqaluit, Canada: Arctic Winter Games Whitehorse: Personal and Social Benefits of Participation. World Leisure Professional Services.
- Lerner, R. M., Brown, J. D., & Kier, C. (2005). *Adolescence: Development, diversity, context, and application (Canadian Ed)*. Toronto: Pearson.
- Lerner, R. M., Lerner, J. V., Murry, V. M., Smith, E. P., Bowers, E. P., Geldhof, G. J., & Buckingham, M. H. (2021). Positive youth development in 2020: Theory, research, programs, and the promotion of social justice. *Journal of Research on Adolescence, 31*(4), 1114-1134.
- MacIntosh, E. W., Parent, M. M., & Culver, D. (2022). Understanding Young Athletes' Learning at the Youth Olympic Games : A Sport Development Perspective. *Journal of Global Sport Management, 7*(1), 1-20. <https://doi.org/10.1080/24704067.2018.1561206>
- Mahadevan, R., & Ren, C. (2019). To Value or not to Value the Arctic Winter Games. *Event Management, 23*, 93-107. <https://doi.org/10.3727/152599518X15378845225375>
- Maillard, C., & Monnin, E. (2014). Une éducation à l'olympisme est-elle possible?. *Éducation et socialisation, 36*. <https://doi.org/10.4000/edso.940>

- Makale & Kylo Planning Associates / Arctic Winter Games Corporation (1982). 'The Arctic Winter Games 1978-1982, An Analysis', Arctic Winter Games Corporation Archives, Yukon Archives in Whitehorse, COR 512, File 9.
- Mallen, C., Stevens, J., Adams, L., & McRoberts, S. (2010). The assessment of the environmental performance of an international multi-sport event. *European Sport Management Quarterly*, 10(1), 97-122.
- Maxwell, K., Mittner, L., & Stien, H. H. (2020). Conceptualizing the North. *Nordlit*, 46. <https://doi.org/10.7557/13.5703>
- McBean, G., Alekseev, G., Chen, D., Førlund, E., Fyfe, J., Groisman, P. Y., ... & Whitfield, P. H. (2005). Arctic climate: past and present. Arctic climate impact assessment: scientific report. Cambridge University Press, Cambridge, 22-60.
- Mol, A. P. (2010). Sustainability as global attractor: The greening of the 2008 Beijing Olympics. *Global Networks*, 10(4), 510-528.
- Monnin, E. & Polycarpe C. (2014), "Le camp de la jeunesse aux Jeux olympiques : de la naissance à la reconnaissance," *Téoros*, 33/1, 20-31.
- Müller, N., Rioux, G., Schantz, O., de Navacelle, G. (Eds.) (1986). *Pierre de Coubertin : selected readings*. Weidmann.
- Newton, J., Gill, D. L., & Reifsteck, E. J. (2020). Athletic Identity: Complexity of the 'Iceberg'. *Journal of Athlete Development & Experience (JADE)*, 2(2), 69-82.
- Nguyen, T. (2020, December 3). The Arctic environment: Issues and challenges. Library of Parliament. https://lop.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/202092E
- Orr, M., & Ross, W. J. (2022). Assessing climate suitability of three cities for the 2027 Women's World Cup. *Case Studies in Sport Management*, 11(S1), S14-S18. <https://doi.org/10.1123/cssm.2021-0043>
- Overduin, P. P., Strzelecki, M. C., Grigoriev, M. N., Couture, N., Lantuit, H., St-Hilaire-Gravel, D., ... & Wetterich, S. (2014). Coastal changes in the Arctic. Geological Society, London, Special Publications, 388(1), 103-129.
- Overland, J., Dunlea, E., Box, J. E., Corell, R., Forsius, M., Kattsov, V., ... & Wang, M. (2019). The urgency of Arctic change. *Polar Science*, 21, 6-13.
- Paraschak, V. (1991). Sport festivals and race relations in the Northwest Territories of Canada. In Grant Jarvie (Ed.), *Sport, Racism and Ethnicity*. Falmer Press, 74-93.
- Paraschak, V. (1997). Variations in Race Relations: Sporting Events for Native Peoples in Canada, *Sociology of Sport Journal*, 14, 1-21.
- Paraschak, V., & Heine, M. (2019). Co-transforming through shared understandings of land-based practices in sport for development and peace. In *Sport, development and environmental sustainability*, (1), 178-194. Routledge.
- Parent, M. M., Kristiansen, E., & MacIntosh, E. W. (2014). Athletes' Experiences at the Youth Olympic Games : Perceptions, Stressors, and Discourse Paradox. *Event Management*, 18(3), 303-324. <https://doi.org/10.3727/152599514X13989500765808>
- Parker, M., Ninham, D. (2002). The Games of Life : Integrating Multicultural Games in Physical Education. *Journal of Physical Education, Recreation and Dance*, 73(2), 12-14. <https://doi.org/10.1080/07303084.2002.10607746>

- Parry, J. (2012). The Youth Olympic Games. Some Ethical Issues. *Sport, Ethics and Philosophy*, 6(2), 138-154. <https://doi.org/10.1080/17511321.2012.671351>
- Petrov, A.N., BurnSilver, S., Chapin F.S., Fondahl, G., Graybill, J., Keil, K., Nilsson A.E., Riedlsperger R., & Schweitzer, P. (2016). 'Arctic sustainability research: toward a new agenda', *Polar Geography*, 39(3), 165-178.
- Prayag, G., & Grivel, E. (2014). Motivation, satisfaction, and behavioral intentions: segmenting youth participants at the Interamnia World Cup 2012. *Sport Marketing Quarterly*, 23(3), 148-160.
- Rosa, H. (2019). *Resonance: A sociology of our relationship to the world*. Polity Press.
- Ren, C. B., Mahadevan, R. & Madsen, A.K. (2016). Valuation and Outcomes in the Arctic Winter Games 2016: Contributions from Research, *Dept. of Culture and Global Studies*, Aalborg University.
- Ren, C. & Rasmussen R. K. (2017). "Future games": Enacting innovation and policy in Greenland. *Arctic Yearbook*, 6, 247-258.
- Ren, C., & Thomsen, R. C. (2016, March 30). The 2016 Arctic Winter Games: "Now we do what we do best". <https://www.thearcticinstitute.org/2016-arctic-winter-games/>
- Ross, W. J., & Leopkey, B. (2017). The adoption and evolution of environmental practices in the Olympic Games. *Managing sport and leisure*, 22(1), 1-18.
- Ryba, T. V., Ronkainen, N. J., & Selänne, H. (2015). Elite athletic career as a context for life design. *Journal of Vocational Behavior*, 88, 47-55. <https://doi.org/10.1016/j.jvb.2015.02.002>
- Shah, S. H. A., Cheema, S., Al-Ghazali, B. M., Ali, M., & Rafiq, N. (2021). Perceived corporate social responsibility and pro-environmental behaviors: The role of organizational identification and coworker pro-environmental advocacy. *Corporate Social Responsibility and Environmental Management*, 28(1), 366-377.
- Simon, M. (2004, April). The Arctic: A barometer of global change and a catalyst for global action. In Mary Simon speaking notes on behalf of the Inuit Circumpolar Conference.
- Skille, E. Å., & Broch T. B. (2019). Sámi Sport in the Nordic Civil Sphere: Assimilation, Multiculturalism, and Multiple Axes of Membership. In J. C. Alexander, A. Lund, & A. Voyer (Eds.), *The Nordic Civil Sphere* (pp. 151-173). Polity.
- Stahl, H., Hochfield, C., & Schmied, M. (2006). FIFA green goal legacy report. *Organizing Committee of the 2006 FIFA World Cup, Frankfurt*.
- Statistics Canada. (2023). Navigating Socioeconomic Obstacles: Impact on the Well-being of Canadian Youth. *The Daily*, Wednesday, September 20, 2023. <https://www150.statcan.gc.ca/n1/daily-quotidien/230920/dq230920a-eng.htm>
- Szabo, C., Schauerte, G., Lankford, S., & Neal, L. (2003). The Arctic Winter Games Are Hot. *Parks and Recreation Canada*, 60(5), 38-44.
- Talavera, A. M., Al-Ghamdi, S. G., & Koç, M. (2019). Sustainability in mega-events: beyond Qatar 2022. *Sustainability*, 11(22), 6407. <https://doi.org/10.3390/su11226407>
- Terret, T. (Ed.) (2011), *Histoire et géopolitique du sport*. L'Harmattan.
- Thomsen, R. C., Ren, C., & Mahadevan, R. (2018) "We are the Arctic": Identities at the Arctic Winter Games 2016. *Arctic Anthropology*, 55(1), 105-118. <https://doi.org/10.3368/aa.55.1.105>
- United Nations (1987). 'Our Common Future: The World Commission on Environment and Development' ('Brundtland Report'). London: Oxford University Press.

- Viersac, M. & Attali, M. (2021). Discuter l'héritage social et culturel des grands événements sportifs. *Une revue de littérature internationale. Staps*, 134, 113-136.
<https://doi.org/10.3917/sta.pr1.0029>
- Wang, W., Primbs, T., Tao, S., & Simonich, S. L. M. (2009). Atmospheric particulate matter pollution during the 2008 Beijing Olympics. *Environmental science & technology*, 43(14), 5314-5320.
- Wicker, P. (2019). The carbon footprint of active sport participants. *Sport Management Review*, 22(4), 513-526.
- Yellowknife AWG Society (1970). URL: <https://awglegacy.wordpress.com/2014/03/09/genesis/>
- Zhang, X., Vincent, L. A., Hogg, W. D., & Niitsoo, A. (2019). Temperature and precipitation across Canada. In E. Bush & D. S. Lemmen (Eds.), *Canada's changing climate report* (pp. 112-193). Government of Canada. <https://changingclimate.ca/CCCR2019/chapter/4-0/>