



# The relevance of the United Nations' Sustainable Development Goals in the promotion of sport, physical activity, and recreation in Canada

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Received: 9 May 2024 / Accepted: 19 September 2024  
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## Abstract

Canada is unique in that it has established four national strategies in support of sport, physical activity, and/or recreation (SPAR). Though some of these strategies identify potential social and environmental correlates of SPAR, and articulate societal outcomes such as changes in behaviour and health, there are no explicit links to larger global initiatives such as the United Nations' Sustainable Development Goals (SDGs). Given that countries are expected to propose a plan for addressing the 17 SDGs, and that obvious overlap exists between several of the proposed development goals and SPAR, Canada should consider whether common indicators can be identified across these strategies and the SDGs simultaneously to facilitate more efficient and effective action. To date, the only SPAR-related indicator proposed in the Canadian plan for SDGs is the health benefit(s) associated with engagement in daily physical activity under Goal 3. Taking an evidence-informed approach for identifying those SDGs for which there are synergies with existing SPAR strategies, we suggest that other goals addressing gender equality, sustainable communities, climate action, life on the land, and peace and justice also share co-benefits with SPAR in Canada. Thus, any revisions to the existing SPAR strategies should identify linkages to the SDGs and indicators.

## Résumé

Le Canada se démarque en ayant établi quatre stratégies nationales à l'appui du sport, de l'activité physique et des loisirs (SAPL). Sans être explicitement liées aux grandes initiatives mondiales comme les objectifs de développement durable (ODD) de l'ONU, certaines de ces stratégies identifient de possibles corrélats sociaux et environnementaux du SAPL et en énoncent les résultats sociétaux, comme les changements dans les comportements et la santé. Étant donné que les pays sont censés proposer un plan pour aborder les 17 ODD et qu'il existe des recoupements évidents entre plusieurs des objectifs de développement proposés et le SAPL, le Canada devrait se demander, pour avoir une action plus efficiente et efficace, s'il y aurait des indicateurs communs entre ses stratégies et les ODD. Jusqu'à maintenant, dans le plan canadien pour atteindre les ODD, le seul indicateur proposé qui soit lié au SAPL est celui des avantages de l'activité physique quotidienne pour la santé (il est lié à l'Objectif 3). À l'aide d'une approche éclairée par les preuves pour repérer les ODD qui sont en synergie avec les stratégies de SAPL existantes, nous faisons valoir que certains objectifs – l'égalité entre les sexes, les communautés durables, l'action climatique, la vie terrestre et la paix et la justice – ont des avantages en commun avec le SAPL au Canada. Si des modifications sont apportées aux stratégies de SAPL existantes, il faudrait donc préciser leurs liens avec les ODD et les indicateurs.

**Keywords** Public health policy · Exercise · Economic development · Transportation · Climate change

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**Mots-clés** Politique de santé publique · Exercices physiques · Développement économique · Transports · Changement climatique

## Sustainable development goals

With the objective to enhance the well-being of people and the planet by 2030, the United Nations adopted 17 goals to foster Sustainable Development Goals (SDGs) including ending poverty, addressing climate change, and ensuring equitable opportunities for health and prosperity (United Nations General Assembly, 2017). Each country that has committed to the SDGs is expected to develop their own plan for addressing the goals and to report on progress on a regular basis. To assist countries in planning and tracking progress, a global indicator framework consisting of 169 targets and 231 indicators (i.e., measurable benchmarks) was created (Inter-Agency and Expert Group on SDG Indicators, 2017). For instance, Canada outlined its initial plan in 2019 (Government of Canada, 2019), which included 30 “federal actions,” 60 indicators, and many targets in relation to the goals. The identification of indicators in the Canadian framework was guided by several principles including simplicity and relevance to policy, availability of data for monitoring purposes, outcomes-focused, and relevance and representativeness for the diversity of peoples and regions in the country (Government of Canada, 2019). In addition, there was a stated intent to achieve breadth and balance in the various issues represented. A subsequent report in 2021 described several initiatives vaguely in line with the indicators, but without mention of progress relative to specific targets (Government of Canada, 2021).

## Co-benefits of sport, physical activity, and/or recreation (SPAR) and the SDGs

As illustrated in Table 1, a case can be made for the potential overlap and co-benefits of promoting physical activity (PA) and addressing the SDGs. For instance, the World Health Organization (2018) identified linkages between most of the SDGs and successful achievement of targets in the Global Action Plan on Physical Activity (GAPPA). In a parallel initiative, the Bangkok Declaration on Physical Activity for Global Health and Sustainable Development (International Society for Physical Activity and Health, 2017) called for alignment with the SDGs and noted that eight of the goals could be achieved through population-based actions to facilitate PA. Using a systematic approach, Salvo et al. (2021) examined the role of PA promotion strategies for achieving the SDGs employing

three different methods: a conceptual linkage informed by the GAPPA (World Health Organization, 2018) and consultations with a group of experts; a scoping review to determine whether the links arising from the consultation were supported by evidence; and an agent-based model constructed to test the potential impacts of large-scale promotion strategies (e.g., transportation systems prioritizing active travel and transit use) on PA and SDG-related outcomes. Overall, the evidence for strategies that address transport policies, urban design infrastructure, and community-based programs was the strongest, with Goals 3 (*good health and well-being*), 9 (*industry, innovation, and infrastructure*), 11 (*sustainable cities and communities*), 13 (*climate action*), and 16 (*peace, justice, and strong institutions*) having the most support. Based on the simulation results, Salvo et al. (2021) also noted that the effects of PA promotion strategies on both PA and SDGs may vary across different global contexts. For example, in car-dependent high-income countries (e.g., Canada, United States), SDG-related outcomes (e.g., reduced traffic-related deaths, improved air quality) can be obtained through promotion strategies; however, for significant improvements in PA and climate change, complementary policies may be required (e.g., disincentivizing driving).

Nigg and Nigg (2021) define PA, inclusive of sport, as a sustainable behaviour (SuB) with potential for both ecological and socio-economic sustainability. For instance, in addition to the health benefits of engaging in PA (Goal 3), employing active transport can contribute to ecological dimensions of SuBs (e.g., decreasing greenhouse gas emissions), which is linked to Goals 11 (*sustainable cities and communities*), 12 (*responsible consumption and production*), and 13 (*climate action*). Sports participation can promote social and cultural dimensions of SuBs such as social inclusion, empowerment, and cultural identity, which are related to Goals 4 (*quality education*), 10 (*reduced inequalities*), 11 (*sustainable cities and communities*), and 16 (*peace, justice, and strong institutions*). However, sports participation has been recognized as a significant source of greenhouse gas emissions mainly due to the motorized transportation required to attend practices and games and the energy demand for operating sporting venues (Bernard et al., 2021, Orr et al., 2022). On the other hand, sport organizations and/or programs can play an important role in mitigating climate change impacts through raising awareness of climate change or supporting adaptation efforts such as building population resilience after natural disasters (Orr et al., 2022).

**Table 1** Potential links between the SDGs and SPAR in Canada

	ISPAH (2017)	WHO (2018)	Salvo et al. (2021)	Nigg and Nigg (2021)	Government of Canada (2019)
1. No poverty					
2. Zero hunger		X		X	
3. Good health and well-being	X	X	X	X	X
4. Quality education	X	X		X	
5. Gender equality	X	X			
6. Clean water and sanitation					
7. Affordable and clean energy					
8. Decent work and economic growth		X			
9. Industry, innovation, and infrastructure		X	X		
10. Reduced inequalities	X	X		X	
11. Sustainable cities and communities	X	X	X	X	
12. Responsible consumption and production		X		X	
13. Climate action	X	X	X	X	
14. Life below water					
15. Life on land	X	X			
16. Peace, justice, and strong institutions	X	X	X	X	
17. Partnerships for the goals		X			

SPAR sport, physical activity, and/or recreation; ISPAH International Society of Physical Activity and Health; WHO World Health Organization

## Canadian SPAR strategies and the SDGs

Canada has four national strategies that support and advocate for sport (Sport Canada, 2012), PA (Public Health Agency of Canada, 2018), recreation (Canadian Parks and Recreation Association/Interprovincial Sport and Recreation Council, 2015), and active transportation (Infrastructure Canada, 2021). Though three of these strategies were released after the SDGs were first established in 2015, no explicit connection exists between the documents. Likewise, the Canadian plan for addressing the SDGs (Government of Canada, 2019) makes no mention of the SPAR strategies. However, it does identify one unmeasurable target (“Early years [1–4] 180 min per day, children and youth [5–17] 60 min per day, adults [18–64 years] 21 min per day, seniors [65+] 21 min per day”) and one indicator (“average minutes of physical activity per day”) for PA in relation to health (Goal 3). Given that two of the actions in the Canadian plan call for “the integration of the SDGs into new and existing strategies, policies and programs” (Action 2) and for enhanced “collaboration between different levels of government, the private and non-profit sectors and research communities” (Action 26; Government of Canada, 2019), we recommend that more consideration be given to linking the existing SPAR strategies and the Canadian SDGs plan. Specifically, based on the evidence provided by Salvo et al. (2021), we endorse the relevance of Goals 3 (*good health and well-being*), 9 (*industry, innovation, and infrastructure*), 11 (*sustainable*

*cities and communities*), 13 (*climate action*), and 16 (*peace, justice, and strong institutions*) in relation to population-based promotion of SPAR. In addition, consistent with the notion that sport is a contributor to socio-economic sustainability (Nigg & Nigg, 2021), we see much potential for sport to address gender equality challenges and recommend inclusion of Goal 5 (International Society for Physical Activity and Health, 2017). Finally, Goal 15 (*life on the land*) appears very relevant to the Framework for Recreation (Canadian Parks and Recreation Association/Interprovincial Sport and Recreation Council, 2015) and for traditional practices (e.g., hunting, trapping, foraging) and games of Indigenous peoples. Some potential targets and indicators associated with our recommended goals are highlighted in Table 2. Overall, aside from the Canadian indicator for PA (Goal 3), there are few indicators that directly relate to SPAR. For example, the “proportion of the population that feel safe walking alone around the area they live” (16.1.4) is one of the indicators for the target to reduce all forms of violence (16.1) and is an obvious link to PA and community recreation.

## Conclusion

The engagement in, and provision of, SPAR has many social, health, and economic benefits that overlap with the objectives outlined in the SDG framework (United Nations General Assembly, 2017). We argue that the proactive

**Table 2** Targets and indicators potentially related to SPAR in Canada as presented in either the Global Indicator Framework (GIF) or the Canadian Indicator Framework (CIF)

Goal	Target	Indicator
3. Good health and well-being	3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being. (GIF)	3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease. (GIF)
5. Gender equality	3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents. (GIF)	3.6.1 Death rate due to road traffic injuries. (GIF)
	Early years (1–4) 180 min per day, children and youth (5–17) 60 min per day, adults (18–64) 21 min per day, seniors (65+) 21 min per day. (CIF)	Average minutes of physical activity per day. (CIF)
	5.1 End all forms of discrimination against all women and girls everywhere. (GIF)	5.1.1 Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex. (GIF)
	5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels. (GIF)	5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment. (GIF)
9. Industry, innovation, and infrastructure	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. (GIF)	9.1.2 Passenger and freight volumes, by mode of transport. (GIF)
11. Sustainable cities and communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons. (GIF)	11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities. (GIF)
	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities. (GIF)	Percentage of Canadians living within 500 m of a public transport stop. (CIF)
	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities. (GIF)	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities. (GIF)
	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities. (GIF)	11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months. (GIF)
13. Climate change	13.2 Integrate climate change measures into national policies, strategies and planning. (GIF)	13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other). (GIF)
	By 2030, reduce Canada's total greenhouse gas emissions by 30%, relative to 2005 emission levels; greenhouse gases in PSPC Crown-owned building portfolio, excluding housing, by March 31, 2030. (CIF)	GHG Emissions. (CIF)
15. Life on land	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. (GIF)	15.1.1 Forest area as a proportion of total land area. (GIF)
	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. (GIF)	15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type. (GIF)

Table 2 (continued)

Goal	Target	Indicator
16. Peace, justice, and strong institutions	16.1 Significantly reduce all forms of violence and related death rates everywhere. (GIF)	16.1.4 Proportion of population that feel safe walking alone around the area they live. (CIF, GIF)

*SPAR* sport, physical activity, and/or recreation; *GIF* global indicator framework (United Nations General Assembly, 2017); *CIF* Canadian indicator framework (Government of Canada, 2019); *PSPC* Public Services and Procurement Canada

integration of SDG indicators in Canadian SPAR strategies could achieve synergies and efficiencies across both sets of plans. For instance, SPAR strategies should consider ways to reduce the carbon footprint of events and venues while also prioritizing those activities that address the SDGs. Furthermore, though the Canadian SDGs plan calls for collaboration between government and other sectors (Government of Canada, 2019), we are unaware of any overt effort to do so in the context of SPAR. Thus, the only direct mention of SPAR in the SDGs plan is for PA in Goal 3, which proposes an unmeasurable target. Coordination across these policies would hopefully allow for more effective use of public funds. Such integration would also align with high public support in Canada for policies that have co-benefits for PA and mitigating climate change (Fagan et al., 2023). Ultimately, any discussion of sustainability and actions to address climate change and future public health challenges in Canada should consider the relevance of active transportation, sustainable tourism, urban infrastructure, and equitable access to programs and services.

## Recommendations

- SPAR-specific measurable targets and indicators should be developed for the global indicator framework (Inter-Agency and Expert Group on SDG Indicators, 2017).
- SPAR-specific measurable targets and indicators should be developed for the Canadian indicator framework (Government of Canada, 2019). For instance, the target for PA under Goal 3 lacks a stated threshold (e.g., by 2030, X% of Canadians will be physically active according to guidelines).
- SPAR-related strategies should consider how to mitigate and adapt to the climate change impact of sports and vice versa.
- Any revisions or updates to the Canadian SPAR strategies should incorporate explicit links to the SDGs, including articulation of measurable targets and indicators. Specifically, SDGs 3 (*good health and well-being*), 5 (*gender equality*), 9 (*industry, innovation, and infrastructure*), 11 (*sustainable cities and communities*), 13 (*climate action*), 15 (*life on the land*), and 16 (*peace, justice, and strong institutions*) show the most promise.

**Acknowledgements** This commentary was coordinated by ParticipACTION.

**Author contributions** JCS conceptualized the project and drafted the manuscript. YBK contributed to the literature review and writing. LV contributed to conceptualizing the topic and drafting of the manuscript. All of the authors provided important intellectual content and feedback on the manuscript and gave approval for the version to be published.

**Availability of data and material** Not applicable.

**Code availability** Not applicable.

## Declarations

**Ethics approval** Not applicable.

**Consent to participate** Not applicable.

**Consent for publication** Not applicable.

**Conflict of interest** The authors declare no competing interests.

## References

- Bernard, P., Chevance, G., Kingsbury, C., Baillet, A., Romain, A. J., Molinier, V., Gadais, T., & Dancause, K. N. (2021). Climate change, physical activity and sport: A systematic review. *Sports Medicine*, *51*(5), 1041–1059. <https://doi.org/10.1007/s40279-021-01439-4>
- Canadian Parks and Recreation Association/Interprovincial Sport and Recreation Council. (2015). *A framework for recreation in Canada – 2015 – pathways to wellbeing*. Canadian Parks and Recreation Association. <https://www.cpra.ca/framework>. Accessed 1 Sept 2024
- Fagan, M. J., Vanderloo, L. M., Banerjee, A., Ferguson, L. J., Lee, E. Y., O'Reilly, N., ... & Faulkner, G. (2023). Assessing support for policy actions with co-benefits for climate change and physical activity in Canada. *Journal of Physical Activity and Health*, *21*(3), 256–265. <https://doi.org/10.1123/jpah.2023-0617>
- Government of Canada. (2019). *Towards Canada's 2030 agenda national strategy*. <https://www.canada.ca/en/employment-social-development/programs/agenda-2030/national-strategy.html#h2.06>. Accessed 1 Sept 2024
- Government of Canada. (2021). *Taking action together – Canada's 2021 annual report on the 2030 agenda and the sustainable development goals (2021)*. <https://www.canada.ca/en/employment-social-development/programs/agenda-2030/taking-action-together.html#annexa>. Accessed 1 Sept 2024
- Infrastructure Canada. (2021). *National active transportation strategy 2021–2026*. <https://www.infrastructure.gc.ca/alt-format/pdf/nats-snta/nats-strat-snta-en.pdf>. Accessed 1 Sept 2024
- Inter-Agency and Expert Group on SDG Indicators. (2017). *Revised list of global Sustainable development goal indicators*. Report of the inter-agency and expert group on sustainable development goal indicators (E/CN.3/2017/2), Annex III. <https://unstats.un.org/sdgs/indicators/official%20revised%20list%20of%20global%20sdg%20indicators.pdf>. Accessed 1 Sept 2024
- International Society for Physical Activity and Health. (2017). The Bangkok declaration on physical activity for global health and sustainable development. *British Journal of Sports Medicine*, *51*(19), 1389–1391. <https://doi.org/10.1136/bjsports-2017-098063>
- Nigg, C., & Nigg, C. R. (2021). It's more than climate change and active transport – physical activity's role in sustainable behavior. *Translational Behavioral Medicine*, *11*(4), 945–953. <https://doi.org/10.1093/tbm/ibaa129>
- Orr, M., Inoue, Y., Seymour, R., & Dingle, G. (2022). Impacts of climate change on organized sport: A scoping review. *WIREs Climate Change*, *13*(3), e760. <https://doi.org/10.1002/wcc.760>
- Public Health Agency of Canada. (2018). *A common vision for increasing physical activity and reducing sedentary living in Canada: Let's get moving*. Government of Canada. <https://www.canada.ca/en/public-health/services/publications/healthy-living/lets-get-moving.html#sp>. Accessed 1 Sept 2024
- Salvo, D., Garcia, L., Reis, R. S., Stankov, I., Goel, R., Schipperijn, J., Hallal, P. C., Ding, D., & Pratt, M. (2021). Physical activity promotion and the United Nations sustainable development goals: Building synergies to maximize impact. *Journal of Physical Activity & Health*, *18*(10), 1163–1180. <https://doi.org/10.1123/jpah.2021-0413>
- Sport Canada. (2012). *Canadian sport policy 2012*. [https://sirc.ca/wp-content/uploads/files/content/docs/Document/csp2012\\_en.pdf](https://sirc.ca/wp-content/uploads/files/content/docs/Document/csp2012_en.pdf). Accessed 1 Sept 2024
- United Nations General Assembly. (2017). *Transforming our world: The 2030 agenda for sustainable development*. <https://sdgs.un.org/sites/default/files/publications/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>. Accessed 1 Sept 2024
- World Health Organization. (2018). *Global action plan on physical activity 2018–2030: More active people for a healthier world*. <https://www.who.int/publications/i/item/9789241514187>. Accessed 1 Sept 2024

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