

## EDITORIAL

## Sustainability and the impact on health and wellbeing

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### Sustainability and the impact on health and wellbeing

Health promotion initiatives can support diverse health and sustainable development benefits due to their broad scope [1]. The 10th Nordic Health Promotion Research Conference, ‘Sustainability and the impact on health and wellbeing’, was held in Halmstad, Sweden, on 14–16 June 2023 and hosted by the Academy of Health and Welfare at Halmstad University. More than 150 researchers from 10 countries participated in the conference. In addition to the keynotes and invited speakers, 118 researchers, PhD students and Master’s students presented their research during the conference, either orally, via posters or in round table discussions. The whole programme and the abstracts can be viewed at the home page of Halmstad University: <https://www.hh.se/om-hogskolan/evenemang/nordic-health-promotion-research-conference.html>. The 11th Nordic Health Promotion Conference will occur in Harstad, Norway, on 10–12 June 2026.

The conference’s main theme was sustainability and the impact on health and wellbeing, specifically focused on UN Agenda 2030 and the impact on health and wellbeing in the Sustainable Development Goals (SDGs). The conference emphasised goal 3, good health and wellbeing, and how it impacted the other 16 goals, particularly goal 5, equality, and goal 10, reduced inequality. Eckermann [2] argues that goal 3 is problematic for health promotion researchers and practitioners because the wording of SDG 3

on promoting good health and wellbeing starts with a holistic approach to health and wellbeing but then proceeds to focus predominantly on preventing death and disease rather than actively promoting positive wellbeing. However, one of the critical questions in the 10th Nordic Health Promotion Research Conference was how Agenda 2030 could be understood from a health promotion perspective and what efforts had to be made to maintain sustainability beyond 2030.

Other scholars [3] emphasise the importance of aligning health goals and targets with systemic actions addressing health’s social and environmental determinants to achieve health equity. They highlight the need for researchers and health promoters to adopt empowering, participatory and salutogenic approaches, moving beyond a narrow focus on disease reduction. Furthermore, they call for sustained action on climate change and sustainability, with particular attention to these global challenges’ inequitable impacts on individuals and communities.

Kickbusch and Holly [4] emphasise that digitalisation is now integral to all aspects of life, including health, creating a new sphere where health is shaped. The digital and physical worlds are deeply interconnected for younger generations, influencing health through social, political and commercial determinants. The rapid adoption of tools such as ChatGPT highlights the fast-paced evolution of this digital health landscape. Health systems and promotion must adapt, requiring new forms of literacy to

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navigate digital health. While digital tools potentially empower individuals to manage their health, they also amplify risks such as increased inequity, misinformation and harmful trends, raising concerns among young and older users worldwide.

Thus, the conference aimed to incorporate these issues but also to strengthen existing traditions in health promotion in the Nordics and facilitate the transfer of knowledge and the exchange of research experiences between Nordic researchers, PhD students and Master's students across disciplinary boundaries and between generations of researchers. The conference offered an opportunity for a multidimensional approach. It was also about comparisons of similarities and differences within the various Nordic countries, and the goal was that the knowledge would contribute to a Nordic added value.

This supplement of the *Scandinavian Journal of Public Health (SjP)* represents the main and sub-themes addressed at the conference and provides eight articles of keynote speakers, Nordic invited speakers and selected researchers (based on their presentations) discussing sustainability and its impact on health and wellbeing. All articles published in this supplement underwent a double-blind review process, in line with *SjP*'s high academic standards.

#### *Global challenges and how inequalities impact health outcomes*

Concerning the main theme, 'Sustainability and the impact on health and wellbeing', the conference invited two renowned international scholars as keynote speakers because of their prominence in the field regarding current research and publication. The first keynote speaker was Evelyn de Leeuw, professor of public health at the School of Public Health at the University of Montreal (ESPUM). Evelyn de Leeuw focused in her speech and her article in the current supplement on global challenges, risks and opportunities for the next generation of health promotion. She highlighted that health promotion must: (a) extend beyond the anthropocentric and involve an appreciation of the complex interactions between geosphere, biosphere and anthroposphere; (b) include humans' journey beyond the atmosphere into outer space; and (c) account for temporal determinants of health more consciously and conscientiously. She emphasised the role of urban health and policy in addressing inequalities and fostering sustainable health practices.

The second keynote speaker was Professor Sir Michael Marmot, professor of epidemiology at University College London. He is an expert in the social determinants of health and has extensively studied how inequalities impact health outcomes,

including environmental determinants. He discussed the importance of addressing health inequalities as a matter of social justice, emphasising that policies and interventions must extend beyond the healthcare system to address the conditions in which people are born, grow, live, work and age. Sir Michael Marmot also addressed the challenges of global health inequalities and discussed actionable steps for sustaining health beyond the UN 2030 Agenda. His keynote emphasised the importance of reducing health disparities as a foundation for global sustainability. Sir Michael Marmot does not provide an article in this supplement, but his research and ideas are already presented in numerous publications, for example Marmot and Allen [5] and Marmot [6, 7].

#### *Social sustainability in relation to equal health and social justice*

The research conference was structured around three subthemes. The first subtheme, 'Social sustainability in relation to equal health and justice', was about sustainability issues from a critical welfare perspective. The invited Nordic speakers for the first subtheme were Professor Terje Andreas Eikemo from the Norwegian University of Science and Technology and Professor Pernille Tanggaard Andersen from the University of Southern Denmark. Terje Andreas Eikemo addressed the persistent health inequalities across the Nordic region despite its reputation for strong welfare systems and equitable policies. The presentation explored three key dimensions: measuring, explaining, and reducing health inequalities. The Nordic countries often serve as benchmarks for social equity, but this session underscored that even in these nations, health inequalities persist. Eikemo's research challenges policymakers and stakeholders to evaluate critically the performance of welfare systems and innovate approaches to achieve health equity. Pernille Tanggaard Andersen's presentation examined social inequality in health and its relation to social sustainability. She explored the social determinants of health and how addressing these inequalities is essential for promoting long-term sustainability in society. She emphasised the need for policies that reduce disparities in health access and outcomes, particularly in vulnerable populations.

Camilla Ihlebæk, Emma Nordbøe and Ragnhild Ånestad organised a roundtable discussion on social sustainable places and how knowledge from the field of health promotion may contribute to understand better the interplay between physical and social factors in the local community. In their discussion article of this supplement, they refer to other researchers claiming that social sustainability

is the ‘forgotten’ pillar of sustainability, with the two other pillars being environmental and economic sustainability. They show how the research on social sustainability is dominated by academic fields such as planning, urban development and architecture, and that social sustainability is rather rare as a topic in health promotion research. The authors argue that researchers in health promotion should take a more prominent role in developing the theoretical and empirical foundation of social sustainability as the dominating academic fields focus primarily on the physical environment, and these fields generally have rather poor knowledge about health and its determinants.

Ragnhild Ånestad, Emma Nordbøe and Camilla Ihlebæk follow up on this conclusion in their second article by presenting a population-based study from Norway on social sustainability. They document that physical and non-physical factors are important for people’s satisfaction with their local community, but that the non-physical factors accounted for far more of the variance in satisfaction than the physical factors. The presented study is a good example of how health promotion researchers may contribute to and broaden the research field of social sustainability.

Lars Bauger has investigated subjective wellbeing among Norwegian retirees. In accordance with international research, he hypothesises that approximately one-fourth of retirees would experience the transition from being a worker to becoming a retiree would influence their wellbeing (while the wellbeing of the others would not change). Surprisingly, he does not find the transition to influence the Norwegian retirees’ wellbeing very much, neither in a positive nor a negative way. He discusses whether the reason for this may be a result of the Nordic welfare system with its rather comprehensive and generous social welfare benefits. Among significant positive predictors of subjective wellbeing among retirees, he shows that a positive attachment to the local community is important. This result aligns with the general results of Ånestad et al. (see above) and underlines the importance of health promotion to focus on social sustainability, as highlighted by Ihlebæk et al. (see above).

Sofie Lundström, Hrafnhildur Gunnarsdottir and Ellinor Tengelin’s article argues for a need to promote young people’s mental health. In their study among young people in Sweden, they describe that the importance of promoting mental wellbeing often coincides with the resources and strategies that are important in managing mental health problems. The authors conclude that even if young people have some resources and strategies, they cannot promote mental health on their own. They need access to social networks and support from adults in their lives

so that the existence they struggle to navigate feels comprehensible, manageable and meaningful.

Katja Ilmarinen, Anna-Mari Aalto and Anu L. Muuri’s study examines unmet needs and barriers to accessing Finland’s health and social welfare services, highlighting their importance for health promotion, equity and universalism. Using data from the nationally representative FinSote surveys (2018 and 2020) and multivariate logistic regression analysis, the study identifies a high prevalence of unmet needs, which increased during the COVID-19 pandemic. Barriers include inconvenient service hours, challenging travel to service units and high fees. Women, younger individuals, those needing income support, and those with poor health or quality of life are disproportionately affected. Despite Finland’s commitment to equity, significant portions of the population face access challenges, likely exacerbated by the pandemic. The researchers argue that immediate action is needed to address these barriers and ensure equitable access to essential services.

Anne Seneca Terkelsen et al. from the Department of Public Health, University of Southern Denmark, won the poster competition entitled ‘Co-creation and co-production of health-promoting activities addressing older people – a scoping review’.

#### *E-health and the implementation of digital innovations for health promotion*

One notable focus in recent research has been on using e-health and m-health (mobile health) technologies for health promotion, emphasising increasing participation and efficiency in healthcare services. Scholars [4] address the digital determinants of health, stressing that health promotion must lead the charge in addressing the challenges posed by digital transformations. They highlight how digital health ecosystems can promote or hinder public health, tying into broader sustainability goals such as SDG 3 (good health and wellbeing) and SDG 10 (reduced inequality). The Nordic invited speakers for the second subtheme, ‘E-health and the implementation of digital innovations for health promotion’, were Karoliina Kaasalainen, PhD student from Health Promotion and Health Education, University of Jyväskylä, Finland and Henriette Langstrup, associate professor of health services, University of Copenhagen, Denmark. Karoliina Kaasalainen’s speech was about the co-design of digital health coaching. She discussed how digital tools could be tailored to promote psychological flexibility and support behaviour change, focusing on developing interventions that engage users and encourage long-term health improvements. Henriette Langstrup delivered

an insightful presentation on the concept of 'Digital health citizenship'. Her talk traced the evolution of individual engagement in digital health from passive participation to active advocacy, focusing on how technology shapes relationships between individuals, health systems and broader societal structures.

Lena Petersson presented a study which also formed an article in this supplement. The aim of the study was to explore healthcare leaders' perceptions of the contribution of artificial intelligence (AI) to person-centred care. The study used an explorative qualitative approach, in which individual interviews were conducted with 26 healthcare leaders at a county council in Sweden. An abductive qualitative content analysis was conducted based on McCormack and McCance's framework of person-centred care (PCC). Healthcare leaders perceived that AI applications could contribute to the four PCC constructs through: (a) prerequisites, including supporting professional competence and establishing trust among healthcare professionals and patients; (b) the care environment, including AI's ability to facilitate patient safety, enable proactive care, provide treatment recommendations, and prioritise healthcare resources; (c) person-centred processes, including AI's ability to tailor information and promote the process of shared decision making and self-management; and (d) expected outcomes, including improving care quality and promoting health outcomes. The healthcare leaders perceived that AI applications could contribute to person-centred care at different levels of healthcare.

#### *Sustainable health in physical activity and sport*

The third subtheme, 'Sustainable health in physical activity and sport', was about strategies to facilitate a health-promoting society in which all people can be healthy and reach their full potential through participation in various organised and unorganised physical activity environments and activities. The invited speakers were Nikos Ntoumanis, professor at the University of Southern Denmark; Ellen Merethe Melingen Haug, associate professor at the University of Bergen; Suzanne Lundvall, professor at the University of Gothenburg; and Sami Kokko, associate professor at the University of Jyväskylä. Nikos Ntoumanis presented a comprehensive exploration of how motivation influences sustained physical activity. His research focuses on advancing theoretical frameworks and refining methodologies better to understand and promote long-term exercise and physical activity engagement. Sami Kokko focused on how sports clubs can better contribute to physical activity and health, particularly for children

and adolescents. He emphasised the role of sports clubs as settings for health promotion and how they can offer more inclusive, sustainable and health-promoting environments for young people. Suzanne Lundvall presented her research on integrating sustainable development perspectives into physical education (PE). Her work critically examines how PE can evolve to foster physical fitness and promote broader social, environmental and cultural sustainability. She was also linking PE to the UN SDGs. Suzanne Lundvall does not provide an article in this supplement, but her ideas are already presented in several articles. Two reviews: one explorative review to investigate how the Agenda 2030 and the SDGs have been related to PE [8] and one scoping review to explore empirical studies in PE with a focus on holistic (sustainable) perspectives on health [9]. In parallel, she and her colleague conducted a literature study of the education and sustainability development research field to learn more about teaching and learning strategies and pedagogical considerations [10].

One of the invited Nordic presenters, Ellen Haug, presented a study exploring how sedentary screen use impacts young people's ability to maintain sustainable engagement in sports and physical activity in Norway. Her article in this supplement documents that adolescents spend much time on screen-based media (SBM) activities. Boys spend more time than girls on gaming, whereas girls spend more time on social media. The older children use more time on SBM compared with the younger ones. Overall, she shows that high use of SBM is correlated with less participation in sports clubs and active commuting such as walking or cycling to school and leisure time activities. Haug's novel and nuanced results about the relationships between SBM and physical activity among adolescents can be used in developing public health initiatives to increase 'sustainable physical activity' to the best for individual health and create sustainable societies for the future.

#### *Future directions*

A significant feature of the conference was the panel debate moderated by Charli Eriksson, professor emeritus of public health science, which brought together the Nordic invited speakers. The discussion focused on strategies for sustainable health promotion, shared perspectives on challenges and successes, and future directions for health promotion research and practice, highlighting the importance of collaboration across disciplines and countries in tackling global health challenges. The presentations at the conference



showcase a diverse range of research focused on health promotion within the framework of social sustainability and the UN Agenda 2030.

## Conclusions

The Nordic Health Promotion Research Conference brought together a range of studies focused on health promotion, sustainability and innovation. Key topics included integrating digital tools into health interventions, the importance of social and environmental factors in health, and the role of physical activity and sport in maintaining health and wellbeing. The conference highlighted the need for holistic and inclusive approaches that address both the social determinants of health and the role of emerging technologies in shaping health futures and safeguarding the planet. This supplement explores some of the critical opportunities we need to focus on improving the health and wellbeing of all individuals over the coming decade. Nordic research on health promotion in relation to Agenda 2030 is progressing.

Thus, the ongoing research in health promotion within the Nordic region is characterised by significant diversity, encompassing a wide range of approaches and perspectives. This diversity reflects the presence of rich and dynamic research environments that foster innovation. However, there is an emerging need for more strategically coordinated research agendas. Such agendas could benefit from an interdisciplinary approach, leveraging insights from multiple disciplines and adopting a transnational perspective effectively to address shared health challenges across Nordic countries.

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## Contributors

1. Evelyne de Leeuw, Chaire d'Excellence de Recherche du Canada, École de Santé Publique de l'Université de Montréal ESPUM, Université de Montréal, wrote the article 'Health beyond borders: The future of health promotion'.
2. Camilla Ihlebæk, Department of Public Health Science, Norwegian University of Life Sciences, Pb 5003, 1432 Ås, Norway and Faculty of Health and Social Work Studies, Østfold University College, Fredrikstad, Norway and Ragnhild M. Ånestad and Emma C.A. Nordbø from the Department of Public Health Science, Norwegian University of Life Sciences, Ås, Norway wrote the article: 'Bridging discourses on health promotion and social sustainability towards healthy community development'.
3. Ragnhild M. Ånestad and Emma C.A. Nordbø from the Department of Public Health Science, Norwegian University of Life Sciences, Ås, Norway and Camilla Ihlebæk from the Department of Public Health Science, Norwegian University of Life Sciences, Ås, Norway and Faculty of Health and Social Work Studies, Østfold University College, Fredrikstad, Norway, wrote the article: 'Social sustainability in local communities in Norway. Which factors are associated with people's satisfaction with their local community as a place to live now and in the future?'.
4. Lars Bauger, Department of Health, Social and Welfare Studies, University of South-Eastern Norway, wrote the article: 'Exploring variations in subjective well-being among Norwegian retirees: a growth mixture modelling approach'.
5. Ellen Haug, Department of Health Promotion and Development, Faculty of Psychology, The University of Bergen, Norway, wrote the article: 'Adolescents' screen-based media use and the relationship with moderate-to-vigorous physical activity, sports club participation and active commuting'.
6. Katja M. Ilmarinen, Anna-Mari Aalto and Anu L. Muuri from the Department of Public Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland, wrote the article: 'Unmet need for and barriers to receiving health care and social welfare services in Finland'.
7. Sofie Lundström and Hrafnhildur Gunnarsdottir from the Department of Health Sciences, University West, Trollhättan, Sweden and Ellinor Tengelin from the Department of Health Sciences, Rehabilitation Science, Mid-Sweden University, Östersund, Sweden, wrote the article: 'Resources and strategies young people use and need to promote their mental health – a qualitative study from a salutogenic perspective'.

8. Ingrid Larsson, Petra Svedberg, Jens M Nygren and Lena Pettersson from the School of Health and Welfare, Halmstad University, Halmstad, Sweden, wrote the article: ‘Healthcare leaders’ perceptions of the contribution of artificial intelligence to person-centred care– an interview study’.

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### References

- [1] Fortune K, Becerra-Posada F, Buss P, et al. Health promotion and the agenda for sustainable development, WHO region of the Americas. *Bull WHO* 2018;96:621–626. <http://dx.doi.org/10.2471/BLT.17.204404>
- [2] Eckermann L. Health promotion principles as a catalyst for translating the SDGs into more transformative action. *Health Promot Int* 2016;31:253–257. <https://doi.org/10.1093/heapro/daw042>
- [3] Spencer G, Corbin JH and Miedema E. Sustainable development goals for health promotion: a critical frame analysis. *Health Promot Int* 2019;34:847–858. <https://doi.org/10.1093/heapro/day036>
- [4] Kickbusch I and Holly L. Addressing the digital determinants of health: health promotion must lead the charge. *Health Promot Int* 2023;38:1–3. <https://doi.org/10.1093/heapro/daad059>
- [5] Marmot M and Allen J. A programme for greater health equity for the next UK Government. *Lancet* 2024;403:2675–2677. [https://doi.org/10.1016/S0140-6736\(24\)01243-1](https://doi.org/10.1016/S0140-6736(24)01243-1)
- [6] Marmot M. Nordic leadership and global activity on health equity through action on social determinants of health. *Scand J Public Health* 2018;46(20\_Suppl):27–29. <https://doi.org/10.1177/1403494818756795>
- [7] Marmot M. *The health gap. The challenge of an unequal world*. London: Bloomsbury Publishing PLC, 2015.
- [8] Fröberg A and Lundvall S. The distinct role of physical education in the context of Agenda 2030 and Sustainable Development Goals: an explorative review and suggestions for future work. *Sustainability* 2021;13:11900. <https://doi.org/10.3390/su132111900>
- [9] Wiklander P, Fröberg A and Lundvall S. Searching for the alternative: a scoping review of empirical studies with holistic perspectives on health and implications for teaching physical education. *Eur J Phys Educ* 2023;29:351–368. <https://doi.org/10.1177/1356336X221147813>
- [10] Lundvall S and Fröberg A. From individual to lifelong environmental processes: reframing health in physical education with the sustainable development goals. *Sport Educ Soc* 2023; 28(6):684–696. <https://doi.org/10.1080/13573322.2022.2062320>