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RESEARCH

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# The health promoting sports coach: theoretical background and practical guidance

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## Abstract

The sports club setting is a key context for health promotion, but it can also be associated with risky behaviours. Sports coaches play a crucial role in supporting the physical, mental and social health of sport participants but often lack the resources and support to do so. This paper proposes a guide to help coaches become health promoters by aligning their actions with the Health Promoting Sports Club model, which represents the setting-based approach applied to sports clubs. An embedded mixed-method study with a QUAL (qual) design was used, where 15 experts took part in 5 meetings and 299 coaches provided input through an online survey. Four steps were carried out: (1) defining the health-promoting sports coach and key action principles, (2) co-constructing progression stages using the settings-based approach, (3) identifying key actions for promoting health in different moments of coaching (i.e., before, during, and after training and competition, and outside of coaching), and (4) developing long-term intervention components.

A definition of the health-promoting sports coach was produced, and eight key action principles have been identified, divided into three dimensions: connection with the system, adoption of a coaching philosophy, and focus on participants. Five stages of progression for integrating health promotion into coaching have been established, ranging from risk prevention to a global approach involving the entire sports system. Specific actions for each moment of coaching (before, during, and after training and competition, and outside of coaching) have been identified, such as monitoring the physical, mental, and social health of participants or plan the coaching session to ensure safety, inclusion, and well-being for all sports participants, staying open for last-minute changes. Finally, long-term intervention components to support the implementation of these actions in practice have been developed, based on what coaches are already doing, the skills they possess and the five stages of progression.

This paper enables the development of a guide to help sports coaches promote health by identifying concrete actions and short- and long-term interventions, whilst making links with the health promoting sports club model. It broadens the scope of coaching by incorporating health principles, while emphasising the need to adapt to the environment and context of the club. This work calls for future research to test the effectiveness and feasibility of these approaches in various sporting environments.

**Keywords** Health promotion, Sports coaches, Sports clubs, Settings-based approach, Action strategies

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## Background

Participation in sports clubs (i.e., “nonprofit and voluntary organisations that have a primary mandate to provide recreational and competitive sport” [1]) is among the most popular forms of leisure time physical activity [2]. It contributes to the prevention of non-communicable diseases [3], and to improve social, mental, and physical health in the general population, [4] and among disabled populations [5]. Nevertheless, this practice is also associated with risky or poor health behaviours such as unhealthy eating [6], alcohol or sugary drink consumption [7], bullying [8], burnout, and injury [9], which can negatively impact physical, mental, and social health. As gatekeepers of sports clubs, sports coaches play an important role in addressing these issues and developing the health and wellbeing of sports participants [10, 11]. A sports coach is defined as a member of the sports club who undertakes a multitude of support activities with the aim of developing and optimising the training programme, developing and refining physical, technical, and athletic tactics through communication and support within and outside of the environment [12]. This definition highlights that coaches are important educational figures through their regular and close interactions with sports participants [13], and have great influence on the social aspects of participation, such as relationships among sports participants. Research in sport psychology has demonstrated the influence of coaches on the mental health and wellbeing of sports participants, and on the development of individuals’ mental and social skills through the coaches’ ability to foster a positive and constructive social climate [14, 15]. Regarding health promotion (defined as the process of enabling people to increase control over, and to improve their health, which is considered to be a state of complete physical mental and social wellbeing [16]), previous research has demonstrated the benefits of coaches’ health-promoting activities, such as promoting fair play, a balanced diet, and positive social relations [17, 18]. Sports participants report higher levels of enjoyment during sport practices, lower intentions to drop out, and enhanced quality of life when they perceive their coaches as being health promoting [17, 18]. Moreover, a study on sports participants in France and Canada illustrated the important role that coaches can play in promoting their health, especially in relation to social and mental aspects [19].

Researchers and policymakers tend to agree on the role of coaches in health promotion, but they also acknowledge that this is not fully realised in practice, particularly because coaches lack resources (e.g., financial, human), implementation knowledge (e.g., how to implement health promotion), and methodological support (e.g., tool and guidelines) [19–23]. Studies have

underlined the paucity of support that coaches receive regarding promoting health, as current policies, training and guidance are minimally addressing health promotion through coaching [24–26], and sports organisations still give priority to performance and competition [27].

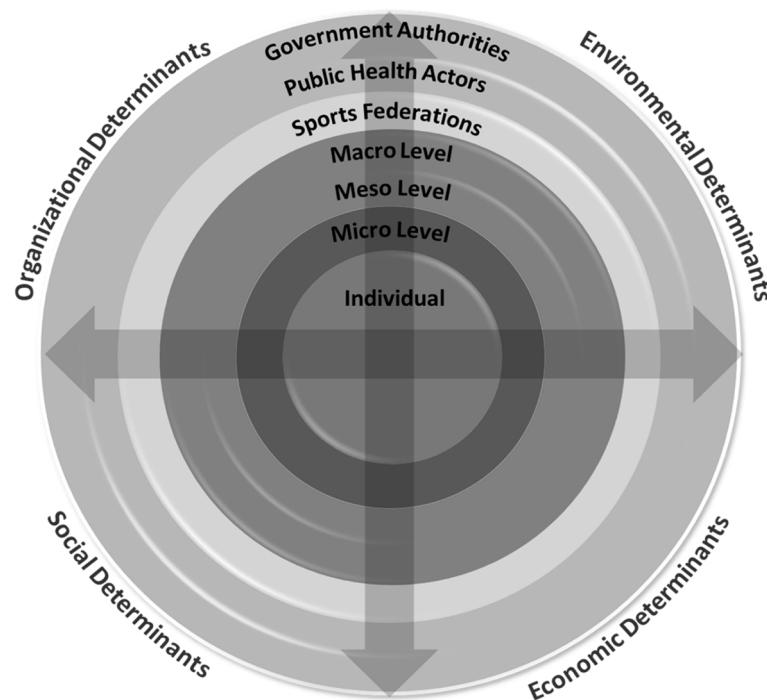
Over the last two decades, efforts have been made to develop the application of a settings-based approach to health promotion in sports clubs [28, 29], which posits that the health of individuals does not depend solely on individual behaviours, but also on organisational, social, environmental and economic determinants of health. Therefore, different levels of the sports clubs (e.g., coaches, managers, club as an organisation) have to be involved to promote health. The aim is to achieve a comprehensive approach to health promotion, where structures and cultures are inherently linked to health and are thus health promoting [30]. These efforts have led to the development of the health promoting sports club (HPSC) model [29]. This model describes four levels within sports clubs (i.e., individual, micro level/coach, meso level/manager and macro level/club) and three levels outside of sports clubs (i.e. external stakeholders, including sports federations, public health agencies, and government authorities) that interact with four types of health determinants (organisational, social, environmental, and economic) and can thus contribute to health promotion (Fig. 1) [29]. To this end, intervention components have been developed at each level [29]. Whilst guidelines for the implementation of intervention components (e.g., how to implement them, why, over what period of time) have been developed for both the HPSC and health-promoting sports federations (HPSF) [26, 31], there is limited guidance for coaches, which may hinder their ability to effectively promote health.

To frame coaches’ health promotion role and close the theoretical gap on applying the settings-based approach at the coaches’ level within the HPSC model, the present paper introduces the Health Promoting Sports Coach Implementation guide and answers the following questions: (1) What is the definition of a health-promoting sports coach, and what are the key action principles to becoming a health-promoting sports coach? (2) How can a sports coach progress from a passive to a comprehensive stage of health-promoting sports coaching? (3) What are the key and time-specific health-promoting activities for coaches to implement? and (4) How can the intervention components from the HPSC model be applied at the coach level?

## Method

### Design

An embedded mixed-method study with a QUAL(qual) design [32] was implemented to investigate how sports



**Fig. 1** The health promoting sports clubs model [29]

coaches can become more health-promoting. The main phase of qualitative research consisted of an iterative process of consultation with experts. The secondary qualitative research phase consisted of administering an online survey (designed through expert consultation) (section B of annex 1) to coaches in several countries on the key health promotion actions to be undertaken at different moments of coaching. The expert group also responded to this survey. This design was chosen to embed experts' and coaches' views into the guide, ensuring that both research and practice-based evidence were included. The involvement of several stakeholders enables the generation, construction, and establishment of relevant and impactful tools through multidisciplinary expertise, experience sharing, and dialogue, as well as using individual resources and skills (e.g., dissemination, data analysis) [33]. This methodology has been used in recent research focused on empowering people involved in promoting health in sports [31].

### Participants

A project team, composed of the first four authors and the last author invited 30 international experts (researchers and members in the 'Promoting Physical Activity and Health in Sports Clubs' working group of the Health-Enhancing Physical Activity (HEPA) network of the World Health Organisation Regional Office

for Europe) to take part in five two-hour online meetings in 2024 (16/01, 6/02, 19/03, 14/05, 18/06). The HEPA network was selected for its diverse expertise, including varied skills, knowledge, and backgrounds related to sports clubs, health promotion, the HPSC model, and the design, implementation and evaluation of health promotion interventions in this setting. Among the 30 invited participants, 10 gave their informed consent to take part in the study after being informed of the ethical implications of their participation. Among the 15 group experts (ten invited participants + five team members), two came from Belgium, one from Finland, four from France, three from Ireland, one from Italy, two from Sweden, one from the Netherlands and one from the United Kingdom. Each participant engaged in at least three meetings, with a mean number of 12 participants per meeting: meeting one ( $n=14$ ); meeting two ( $n=12$ ); meeting three ( $n=13$ ); meeting four ( $n=11$ ); meeting five ( $n=11$ ). As part of their contribution to the exploratory project, the members of the expert group were asked to disseminate the online survey (section B of annex 1) to coaches in their country through an open call. Each coach responding to the survey gave informed consent at the beginning of the survey to participate in the study. This study was approved by the University of Lorraine Data Protection Officer, registered with the National Commission of Freedom of Information under number 2024–312.

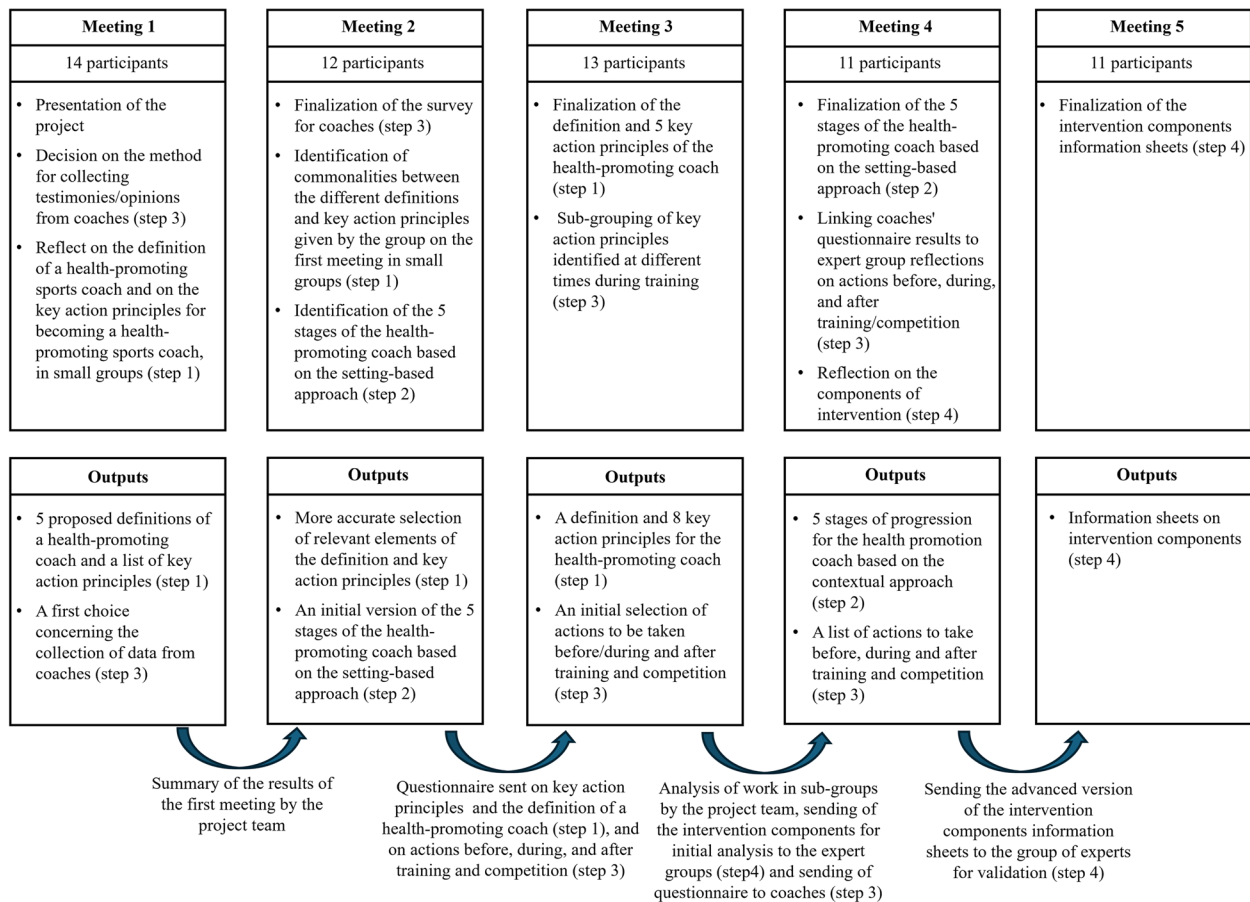
**Data collection**

The data for the primary qualitative research phase were collected via feedback/notes taken by the first author and through online tools (shared documents on OneDrive or surveys on Limesurvey), as well as feedback and interactions with participants before, during, and after the meetings. Agenda and minutes from each meeting were approved, documents generated from the meetings were shared and reviewed and input from each participant was requested. The various steps that drove this co-creation process included: (1) defining the ‘health promoting sports coach’ and identifying the key principles of action to becoming a health-promoting sports coach, (2) co-constructing stages of progression to apply the settings-based approach to health-promoting sports coaches, (3) identifying key actions to undertake at different moments of coaching and (4) developing the health-promoting sports coach intervention components (see Fig. 2 for more details). The secondary qualitative research phase, using survey (section B of annex 1), enabled the identification of key actions to undertake at different moments of coaching (step 3), according to the coaches. After

completing the survey themselves, the members of the expert group were asked to pass it on to the coaches. The survey asked the following open-ended question: “From your point of view, what are the 5 actions a coach should be doing [coaching moments] to promote his/her athletes’ health or well-being?” at seven coaching moments: before, during and after training; before, during, and after competition; and outside of coaching.

**Step 1: defining health-promoting sports coaches and key action principles**

To develop the health-promoting sports coach definition, the expert group reviewed definitions of coaches based on different sources: (1) a literature review on coaches’ health promotion skills (Barros K, Vuillemin A, Rostan F, Lemonnier F, Guillemin F, Tézier B, et al.: Defining Health Promoting Sports Coaches skills: a systematic review, unpublished) and (2) the definition of the four types of health determinants of the HPSC model [34]. Participants from the expert group were randomly paired, and asked to reflect on the definition and identify the key principles of action of a health-promoting



**Fig. 2** Content and aim of each meeting

sports coach for 15 min during the first meeting. After the meeting, the discussion notes from each pair were analysed by two authors, to propose a common definition and to identify the key principles of action that emerged. To this end, after an in-depth reading, two authors independently coded the content and organised it into themes to identify recurring elements. After this, the order of the words proposed by the experts was also considered to structure the definition as logically as possible. Based on this, an online survey (section A and C of annex 1) was sent to the group of experts to rate a selection of key action principles aligned with becoming a health promoting coach, and to suggest amendments to the draft definition. At the next meeting, the eight key action principles with the highest ratings were selected, and a consensus on the definition was reached.

**Step 2: creating stages of progression to apply the settings-based approach to health-promoting sports coaches**

Using definitions from the five stages of the settings-based approach [30], the HPSC model [35] and the HPSF stages [26], two sub-groups worked (during meetings two and four) on applying these stages to the coach's role in health promotion and providing examples of best practice. The sub-groups worked independently during meeting two before merging and consolidating their output during meeting four. Following the sub-group work at the fourth meeting, two authors carried out a thematic analysis [36] (i.e., in-depth reading, coding by recurring themes independently, pooling and discussion of disagreements) of the proposals from the two sub-groups, in order to synthesise and integrate the ideas presented.

**Step 3: identifying key health promotion actions to undertake during different coaching moments**

To operationalise both the definition and the five stages to becoming a health-promoting setting and to develop an action checklist, the expert group focused on identifying key actions that must be undertaken by coaches to promote health. To facilitate understanding and reading, seven key coaching moments were identified by the group (before, during, and after training, before, during, and after competition, and outside of coaching). The survey (section B of annex 1) asking: "From your point of view, what are the 5 actions a coach should be doing [coaching moments] to promote his/her athletes' health or well-being?" was circulated among expert group participants to collect five key actions for each coaching moment. This generated the following number of actions: before training ( $n=46$ ), during training ( $n=45$ ), after training ( $n=39$ ), before competition ( $n=41$ ), during competition ( $n=39$ ), after competition ( $n=39$ ), outside

of coaching ( $n=34$ ). Following this, the same survey (section B of annex 1) was sent to coaches, via the experts in the group (disseminated via social media, national sports governing bodies, and local contacts), asking them for one key action at each of the seven moments. Almost 300 ( $n=299$ ) coaches, from 10 European countries, responded to at least 70% of the questionnaire. Among these respondents, 50 were women, 123 were men, and 1 reported being non-binary. In relation to which gender they coached, 5% stated they coached females, 10% coached males, and 44% coached both. The respondents were primarily volunteers (62%), had been coaching for at least four years (77%), in both individual (42%) and team sports (37%). The survey generated the following number of actions: before training ( $n=191$ ), during training ( $n=192$ ), after training ( $n=190$ ), before competition ( $n=188$ ), during competition ( $n=181$ ), after competition ( $n=184$ ), outside of coaching ( $n=182$ ).

**Step 4: developing health-promoting sports coaches intervention components**

The 31 intervention components (ICs) (i.e., long-term actions to structure and support health promotion in coaching, as opposed to key health promotion actions (step 3), which are more day-to-day actions) from the HPSC model, that were previously classified as being part of a coach's responsibility [29], were used as a starting point for step 4. This was done to ensure consistency with the original HPSC model and develop its application for practice. Based on this, the expert group created an information sheet needed for the implementation of each IC based on the following categories: (1) link between the IC and the coaches' role, (2) best practice examples, (3) skills required for the IC, and (4) actions regarding the stages of the health-promoting sports coach. The template was discussed during two meetings and the first version was drafted by the expert group. The last author then assigned three ICs to each expert group participant based on their field of expertise. The resulting ICs were then made available for consultation, addition and correction by the entire group of experts. The feedback from this second wave was compiled by the first and last authors and submitted to meeting five for completion and validation by the entire expert group.

**Data analysis**

Documents related to each meeting (e.g., transcripts of meetings, answers to questionnaires, work in sub-groups) were analysed by the first author, by using a deductive approach with the HPSC model as the theoretical basis [29]. The data analysis was completed between each meeting, based on participants' contributions to shared documents, surveys and meeting minutes, which

were approved by the expert group. For steps 1, 2 and 4, the work principally consisted of compiling participants' answers, asking for precision, and feedback and ensuring consensus. This work was carried out by the first three authors and the last author. For step 3, after collecting data from the expert group, based on thematic analysis [36], two authors merged similar statements in order to have a maximum of 10 statements per category. The first author then reviewed all the coaches' responses regarding their health promotion actions during each coaching moment, compared them with what was already mentioned by the expert group, and added any novel responses. After that, the key actions were presented to the expert group for refinement and adoption.

**Results**

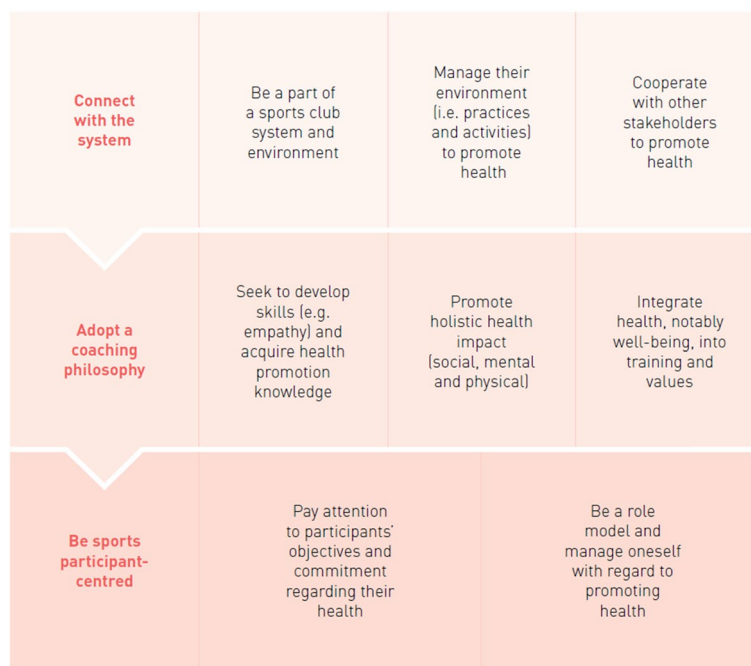
**Step 1: defining health-promoting sports coaches and key action principles**

The expert group proposed the following definition: "A health-promoting sports coach is defined as a coach that actively engages with the sports system, utilising their expertise, skills, and knowledge to promote health and wellbeing among sports participants and sports club stakeholders". Based on this definition, eight key action principles to becoming a health-promoting sports coach were identified across the following three dimensions (see Fig. 3 for details): connect to the system; adopt a coaching philosophy; be sport participant centred. To connect with the system, the following principles were included:

be part of a sports club system and environment (be integrated into the club's structure, dynamics, values, and rules); manage your environment (i.e., practices and activities) to promote health; and cooperate with other stakeholders to promote health. To support the adoption of a healthy coaching philosophy, the principles were: seek to develop skills (e.g., empathy) and acquire health promotion knowledge; promote social, mental, and physical health; and integrate health and wellbeing into training and values. To be sports participant centred, the following principles were included: pay attention to participants' objectives and commitment regarding their health; be a role model; and manage your own health.

**Step 2: creating stages of progression to apply the settings-based approach to health-promoting sports coaches**

The expert group formulated a definition and concrete examples of the applications of the settings-based approach to sports coaching (see Table 1 for details). The passive stage is called 'safe sports coaching', where coaches' actions are focused on preventing risks (e.g., injuries, sport burn-out, violence, doping) rather than actively promoting health (e.g., fostering hygiene, well-being, and positive climate), and the focus of coaching is on performance and results. The active stage is called 'coaches promoting health', with coaches seeing health as a resource for sports participants, actively supporting health to enhance sport performance and sports



**Fig. 3** Principles of health promoting sports coach

**Table 1** Stages of health promoting sports coaching

Stage [30]	Perspective	Definition	Coach action	Stakeholder role	Examples
1	Passive	The problem and its solution are within the behaviour and actions of sports club members	Coaches' actions are focused on preventing risks (e.g. injuries, sport burn-out, violence, and doping) rather than promoting health (e.g., fostering hygiene, well-being, and positive climate) and the focus of coaching is on performance and results	Sports participants seek answers for themselves; where coaches assist when necessary	Coaches focus on teaching the sport, ensuring sports participants understand the game, and have safe sports practices, such as a warm-up and cool-down before and after practice and competition, preventing drop-out
2	Active	The problem is within the behaviour of sports club members; some solutions are with the club	Coaches see health as a resource for sports participants, supporting health to enhance sport performance and sports participants' well-being, mostly in reaction to problematic situations	Sports participants can request support from their coach in terms of supporting their health	Attention is given to fostering physical activity practice and increasing awareness of healthy meal consumption before and after practice and competition
3	Transmissive	The problem is within the club; the solutions are in learning with and from coaches, managers, and stakeholders	Coaches consider health (beyond lifestyles to enhance performance) during practice and by inviting health professionals to raise awareness of subjects related to health	Coaches foster sports participants' health actively and are supported by some managers	Coaches promote healthy behaviours with their sports participants (e.g., organise a healthy breakfast). They invite external practitioners, such as physiotherapists, to discuss injury prevention strategies. One-time, short-term sports club interventions are implemented by a coach
4	Organic	The problem is within the club; the solutions are in the synergies of actions from coaches, managers, and all other stakeholders, such as sports participants and parents	Coaches endorse health, and plan and conduct initiatives that actively promote health in everyday activities, in and outside of coaching, based on sports participants' needs	Coaches can base their health-promoting activities on those of the sports club, which provide support and resources	Coaches advise individually on healthy lifestyles and provide hydration and safety protection resources. Sports clubs have a focus on non-smoking environments, and secure and welcoming changing and rest rooms. Health promotion activities are consistent throughout the sports season. Coaches and sports participants exchange information on health

**Table 1** (continued)

Stage [30]	Perspective	Definition	Coach action	Stakeholder role	Examples
5	Comprehensive The problem and the solutions are within the club	Health promoting sports coaching	Coaches use the whole sports club's system (e.g., managers, parents, members, and other coaches), including resources and policies, to promote health in a comprehensive way inside and outside of coaching	Coaches are guided and fully supported and equipped by the club, in terms of policy and practice to support health	Coaches request parents' or volunteers' help with sports participants' health development Coaches embed the use of health promotion tools in their coaching Coaches adopt a health-promoting vision Coaches mentor and discuss health promotion in the club and local environment. Coaches are an integral part of their supportive sports club, developing, implementing, incorporating and adjusting the health promotion vision of the sports club based on feedback from stakeholders. Coaches embed and align the health promotion plan of the club into all practices

participants' wellbeing, mostly in reaction to problematic situations. The transmissive stage is called 'health promotion in sports coaching,' where coaches' philosophy and behaviours around health include advising on health (beyond the single objective of improving performance) during training and inviting health professionals to raise awareness about health-related subjects. The organic stage is called 'health-promoting sports coaching programmes,' where coaches endorse health, plan and conduct initiatives that actively promote health in everyday activities both within and outside of coaching, based on sports participants' needs. The comprehensive stage is called 'health-promoting sports coaching,' where coaches use the whole sports club system (e.g., managers, parents, members, other coaches, and sport federations), including club resources and policies, to promote health in a comprehensive way within and outside of coaching contexts.

In addition to these results, the expert group identified 3 principles for progressing through these stages: (1) moving from an individual level of activity to a collective, concerted and co-constructed solution that integrates health into all coaching actions; (2) moving from a reactive approach, intervening only when problems arise, to a proactive approach that promotes health and prevents problems from arising, and (3) moving from the transmission of information on risks (alert), to health education (information sharing), and finally to health promotion (e.g., changes in the system).

### **Step 3: identifying key health promotion actions to undertake at different moments of coaching**

The expert group and the coaches identified key actions to undertake during different moments of coaching (before, during, and after training; before, during, and after competition; outside of coaching) to promote health (see Table 2 for details). Identified actions were formulated to provide a checklist to coaches for different aspects of coaching, integrating the perspectives from expert group members and those from coaches. Examples include: "Pay attention to sports participants' physical health (e.g., fatigue, hydration, and discomfort), mental health (e.g., stress, anger, and joy) and social health (e.g., isolation) to ensure they are feeling well during the entire competition" (during competition); "Ensure a cool-down, stretching, shower and proper eating after competition, as a basis to ensure their wellbeing" (after competition). It should be noted that the examples of health topics provided are illustrative. Other health topics may be more relevant depending on the sport and participant characteristics. These actions are cumulative and can be considered as sub-components of ICs. By

integrating these actions into practice, it becomes possible to progress from one stage to another.

### **Step 4: developing health-promoting sports coach intervention components**

Table 3 presents strategies and intervention components linked with the 5 stages of progression in health-promoting sports coaching. The table outlines how each intervention component could be implemented at each stage, from safe sports coaching to the development of comprehensive health-promoting sports coaching programmes. It covers strategies such as clear communication, involvement of parents and local decision-makers, communication on the benefits of health promotion activities, and regular evaluation of resources and outcomes. Coaches are encouraged to integrate health promotion into their coaching practices, considering both short- and long-term effects, and to foster positive relationships within the team and the broader community. The table illustrates the gradual evolution from basic safety measures to fully integrated health promotion practices in sports coaching, represented by the 5 stages. All information sheets and the work carried out in this study can be found in the free access guide dedicated to sports clubs and coaches: "Be an empowering and supportive coach: Health Promoting Sports Coach implementation guide. Copenhagen: WHO Regional Office for Europe; 2024": <https://www.who.int/europe/publications/i/item/WHO-EURO-2024-10391-50163-75563>. The expert group considered the Intervention Components to be long-term implementation strategies complementary to daily activities mentioned in step 3.

## **Discussion**

The present paper describes the theoretical concept of the health promoting sports coach, as well as the activities and ICs that support health promotion implementation in practice. It aims to serve as a springboard for sports coaches to deepen their engagement with health promotion, enabling them to identify health determinants, learn from existing health promotion initiatives, and develop new activities tailored to their interests and needs. This theoretical underpinning should help coaches to identify health promotion actions that they already include in their coaching but may not necessarily consider as health-promoting [37], such as warm-ups, hydration or fair play [19].

The findings offer actionable insights for sports organisations, such as sports federations and sports clubs, to create guidelines and recommendations that bolster health-promotion training for coaches. Building on the settings-based approach applied to sports clubs, the

**Table 2** Actions to implement health promotion at different moments of coaching

Before training	During training	After training	Before competition	During competition	After competition	Outside of coaching
Plan the coaching session to ensure safety, inclusion, and well-being for all sports participants, staying open for last-minute changes	Provide positive, accurate and solution-oriented feedback Listen to sports participants' thoughts and feelings Encourage group communication and sports participants' ownership Create a training environment that is socially inclusive and safe Deliver coaching sessions that include an adequate warm-up, minimal standing/sitting, and transition time, and good engagement in moderate-vigorous intensity activity, without forgetting sufficient break and recovery Provide clear information (what, why, and how) and directions about activities during the training Adapt activities during training according to sports participants' needs (e.g., level, thoughts, collaboration) Provide opportunities in activities for sports participants to take initiative and act independently Ensure all sports participants are involved and feel included during training Be a role model for sports participants through healthy behaviours and leadership and communication style Acknowledge effort, participation and process rather than winning and performance-related outcomes	Provide sports participants with immediate constructive feedback, emphasising positives from the session and areas to improve upon Elicit feedback from sports participants on what went well in the session and what they would like to improve on Advise sports participants on effective ways for short- and longer-term recovery and having a healthy lifestyle, such as through proper sleep and nutrition, stretching, and hydration Communicate in an age-appropriate and timely manner with sports participants and their families regarding concerns, upcoming training, competitions, and other events Seek support from relevant others (e.g., parents, club officials, health professionals) to help address potential issues with sports participants Disseminate relevant health information to sports participants, such as information on injury prevention, preparation and recovery Emphasise the importance of a healthy lifestyle, such as taking a shower and active commuting after sport practice, but also on responsible alcohol consumption and sustainable development Save time after coaching for one-to-one conversations with sports participants on request Emphasise social activities after training, with responsible alcohol or substance consumption	Prepare a suitable competition plan, including goals, logistics, schedule, rules, and specific roles, if necessary Ensure sports participants have adopted a healthy lifestyle (e.g., proper eating, no alcohol, and enough sleep) the days before the competition Remind yourself and sports participants this is just sport, and they should enjoy themselves Ask sports participants how they are doing (physically, mentally), reassure them, and adjust the competition plan accordingly Check that sports participants and relatives have all necessary information about the location, installation, and rules, to minimize stress and last-minute queries Conduct a thorough check to ensure sports participants wear their protection equipment, and installations are safe to prevent injuries Have a fair and transparent selection of sports participants, and encourage them to do their best, considering winning is not the only goal Welcome each sport participant at arrival, address their questions, propose a routine to warm-up, and foster positive relationships before the competition Observe other team habits in terms of health promotion and learn from their experience	Manage your emotions, stay humble, and adjust your behaviours regarding the situation Cheer up, and communicate effectively with sports participants individually and collectively, by remaining positive Create a psychologically safe environment, where sports participants can express their feelings and ideas Maintain smooth interactions with sports participants, referees, parents, other competitors and relatives during the competition, and be there for them Be aware of how you act in the heat of the moment, as you are in a position of a role model for sports participants Motivate, encourage, give feedback to, and support sports participants according to their needs and profile Pay attention to sports participants' physical health (e.g., fatigue, hydration, and discomfort), mental health (e.g., stress, anger, and joy) and social health (e.g., isolation) to ensure they are feeling well during the whole competition	Praise sports participants and give feedback on what went well and what to improve based on this competition Inquire about sports participants' health state after the competition Identify one to three key situations to work on for the next training Ensure a cool-down, stretching, shower and proper eating after competition, as a basis to transfer into a healthy lifestyle Debrief about sports participants' experiences, feelings, progress and obstacles Propose a post-competition follow-up recovery or training programme (during the days that follow) Encourage social interactions between sports participants, referees, other competitors and relatives	Use existing learning materials and resources to inform sports participants about health-related issues Remind yourself to participate in continued learning or online programmes on health-related issues Advise on the importance of overall physical activity in daily life, like active commuting Foster open and supportive communication with and between sports participants about any concerns or challenges Inform your sports participants and their parents that you are available for issues outside of sport Take care of your school or work duties Seek out support for health promotion from club management, available expertise or health professionals Help sports participants identify the health effects of sports participation Come back regularly to your coaching principles and think about their application to sports participants Propose activities to sports participants or encourage them to spend time together outside of sport Take care of yourself and adopt a healthy lifestyle

**Table 3** Strategies and intervention components, linked with stages of progression of health promoting sports coach

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Adopt clear, explicit and visible messages in communication	Coaches can create a slogan for their health promotion project by first identifying the objective and the target audience. Try to use short sentences, simple words and a positive message. Finally, be creative (e.g., rhymes, jokes) and think about how the slogan will be used (e.g., flyer, poster)	Remind sports participants about the principles of safe training	Give information on health behaviours	Include a clear health promotion message in the dialog	Announce health promotion events, activities and their benefits accurately and clearly	Organise and structure the health promotion discourse clearly, precisely and continuously
Ensure the club communicates with the external community	To communicate with people outside of the club, coaches can organise meetings with parents, talks with other coaches during competitions or develop a slogan that can be seen on sports participants' outfits, or present the club's initiatives during training days, inter-club meetings or coaching conferences	Make sure sports participants respect the rules when practicing outside of their club	Inform participants about health professionals in the community	Communicate the health promotion initiatives implemented locally or through the club	Discuss health promotion initiatives implemented by your club and disseminate the club's communication strategy	Communicate health promotion initiatives and values implemented within your club using various levers (e.g., network, during competitions, coaching conferences and meetings with parents) and rely on communication tools
Ensure internal club communication	Coaches can ensure there is clear, regular and constructive communication between the various people involved in the club (sports participants, technical staff, management). Coaches can also establish effective channels of communication, attend and participate in club meetings, and establish mechanisms for sports club members to give feedback	Communicating the importance of warming up	Communicate on a health topic occasionally (e.g., responsible drinking)	Integrate health promoting information and discussion before, during and after training	Organise regular health promoting activities and events on a range of holistic health related themes	Develop a communication plan within the club around health promotion initiatives, using different strategies (e.g., question boxes, meetings, discussion boards, social networks)

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Communicate the benefits of health promotion activities	Coaches can communicate the importance of being fit and healthy, by giving an example at the start of each training session, by posting a health promotion video in the club or online discussion channel, by sharing their personal experience in discussions with participants or parents, or by organising meetings to highlight the benefits of what has been put in place	Coaches communicate the health benefits of performing the sports movement correctly	Coaches mention the link between practice and physical, mental and social health occasionally	Continuously communicate (verbally only) the benefits of training and health promotion	Develop several strategies (in isolation) to highlight the benefits of health promotion actions	Develop a communication plan and coordinate several strategies throughout the sports season to communicate the benefits of health promotion
Consider the club and overall sense of belonging in the group when defining health promotion goals	Coaches can identify the needs and priorities of their sports participants that would inform the development of health promotion solutions, aligned with club values, experiences, motivations and philosophy	Consider, and mitigate the health risks linked to the sport	Promote the club's philosophy and values during training sessions and health-related messaging	Integrate health into coaching to enhance the culture within the group	Develop health promotion programmes to specifically improve the culture of the group	Consider the overall culture within the whole club setting around promoting health
Identify reasons for commitment to health promotion	Coaches can ask participants directly about their health. Coaches can also organise meetings, use questionnaires, observe behavior at club events, rely on feedback from club members or ask if they have any health improvement goals	No action	Ask about motivations at the start of the sporting season to try to take them into account during the season	Ask participants about their reasons for taking part in sports activities, so that one or two activities can be carried out during the year	Monitor reasons for getting involved in sport throughout the season to develop actions	Question commitment to health beyond sport practice and mobilise these reasons to further develop and implement activities collectively

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Identify the degree of commitment to health promotion	At the start of the season, coaches can ask participants how they might get involved in health promotion, show a video of other club members getting involved in health promotion, or use a survey at the start of each month or quarter to ask how participants want to get involved in health promotion	No action	Questioning participants about their ability to lead and share their experience of health promotion activities during the season	Identify the ability of participants to make a long-term commitment to health-promoting values and objectives for the season	Identify the ability of participants to develop health-promoting activities	Share a common commitment, vision and decision-making process on health-promoting values and objectives for the season and develop health-promoting activities
Regularly review the financial resources being used	Although this is not part of their main tasks, coaches can consider the advantages of being aware of financial aspects, such as the cost of equipment, expenses linked to activities, and travel costs. Organising budget meetings between participants, coaches and managers can serve as a platform for aligning financial goals, reviewing performance against targets, and making informed decisions about resource allocation	Assess the financial resources required to ensure that training runs smoothly	Assess the financial resources available at the start of the season to offer a health promotion activity	Assess the financial resources available at the start of the season to develop a season-long health promotion programme	Evaluate the financial resources available each quarter to develop health promotion programmes	Evaluate financial resources throughout the season and on a regular basis to ensure health promotion

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Regularly review the human resources being used	Coaches can identify human resources that can contribute to health promoting activities and dedicate time to discuss participants' health and well-being. Coaches can invite participants' relatives, health professionals, and other stakeholders to contribute or draw inspiration from initiatives already in place or implemented in the community or in other clubs, with a view to promoting health	Assess the human resources required to ensure that training runs smoothly	Assess the human resources available at the start of the season to offer a health promotion activity	Assess the human resources available at the start of the season to develop a season-long health promotion programme	Evaluate the human resources available each quarter to develop health promotion programmes	Evaluate the human resources available throughout the season and on a regular basis to ensure health promotion
Regularly review the club's capacity to undertake the actions required to achieve the goals	Coaches can, at their own level, establish their roadmap for promoting health, gathering support within the club, questioning managers and sports participants on the support they can provide or even asking the managers to provide feedback concerning the progress of projects and objectives	No action	Assess the ability to meet the health promotion objectives and engage in related activities once or twice per season	Integrate the evaluation of the achievement of health promotion objectives in these coaching activities	Regularly obtain participant feedback to evaluate the achievement of health promotion objectives	Integrate the evaluation of the achievement of health promotion objectives into your training, planning and programming, and consider participants' perspectives
Regularly review the time dedicated to achieving the goals	Coaches should keep a schedule dedicated to each health promotion activity relying on temporality criteria: early, normal, at risk or delayed. Coaches should organise meetings with the stakeholders involved in each action to identify realistic timelines and continuously monitor progress	No action	Review whether health promotion objectives have been achieved in the allotted timeframe annually	Include a review of time dedicated to health promotion actions during training	Continuously review the time taken to discuss health promotion actions during each training session	Apply a strategy (e.g., tools, meetings) for evaluating the time taken to achieve each health promotion objective

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Define the goals of health promotion	Coaches can start by assessing the needs of the participants and involving them in identifying goals for health promotion. This can be used to establish "smart" goals (specific, measurable, attainable, relevant, time-bound objectives)	Set goals around coaching, participation and performance in sport	Include goals on specific health topics (citizenship, injury prevention, doping) for coaches	Co-construct goals for health promotion with sports participants	Consider health promotion as a goal that covers several health topics under one umbrella concept	Consider health promotion as a transversal objective in the development of coaching, integrate health into each training, and have an appropriate discourse, while using adapted strategies and ensuring monitoring throughout the year
Mobilise parents (and other family members) to support health promotion actions	Coaches can communicate with parents and relatives just before or after training, they can provide a leaflet on the activities that will be implemented within the club, they can ask parents to get involved in the delivery of actions or they can organise sessions directly involving relatives or parents	No action	Set up a health promotion activity with the parents/friends of one of the participants	Recruit a parent ambassador for each health topic or project and associate their image with the health promotion programme of the club. Provide education and support to these ambassadors in their respective health topics	Involve the parent ambassador in the promotion and dissemination of health, including at the social activities of the clubs (festivities, gatherings, meetings)	Encourage and support parents to develop health promotion programmes in their clubs, by engaging them in programme design, implementation and dissemination
Mobilise local decision-makers and elected officials to promote health within the sports club	Coaches can invite policy- or decision-makers to the club, collect testimonials from club members to raise awareness among policy makers, and take part in meetings organised by local actors	Communicate the way in which the safety of participants is important to local decision-makers	Communicate sports clubs' activities in health promotion to local decision-makers	Organise events on health promotion with local decision makers	Form a partnership with local municipality and policy-makers for commitment to and implementation of health promotion	Through the partnership, include sports club's health promotion activities in local decision-makers' policies and actions
Review the short-term effects of the actions (changes within one sports season)	Coaches can use data to monitor progress using tools, they can allocate discussion time with participants to get their feedback, they can identify key evaluation moments in the season or use a diary to monitor health promotion actions	No action	Assess the fitness and health of sports participants	Review attendance and participant testimonies from health promotion activities	Plan several times during the season to see the effects of the health promotion actions and reflect on their improvement/adaptation at the end of the season	Implement a monitoring strategy (e.g., tools, regular meetings) for health promotion actions and their effects and organise discussions at the end of the season to plan initiatives for the following year

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Review the long-term effects of the actions (changes beyond one sports season)	Coaches can monitor indicators of success (e.g., number of injuries, consumption in the cafeteria, well-being of sports participants) over several seasons. They can conduct a survey on long-term effects among club members, they can organise annual meetings on the health promotion actions implemented or create a document (e.g., poster, online, manual) highlighting the impact of actions	No action	Organise an annual meeting to assess the long-term effects of health promotion initiatives	Incorporate indicators into training to monitor health promotion actions over the long term	Organise annual discussions with participants to monitor long-term effects and set up monitoring indicators	Incorporate long-term monitoring of health promotion actions into its planning by using monitoring tools and organising follow-up meetings and use this long-term evaluation as a basis for developing its training
Foster positive interpersonal relationships	Coaches can promote teamwork and involvement of all sports participants during training and competitions, take the time to know the sports participants beyond their sporting activities, highlight positive and respectful behaviours or organise activities promoting group cohesion (inside or outside of training/competitions)	No action	Stimulate positive relationships during training sessions (e.g., focus on collaboration during training, everyone can play)	Develop a discourse and implement rules that encourage positive interpersonal relationships during and outside of training, throughout the season	Implement special activities (team building) that encourage positive interpersonal relationships, and a peer support (buddy) system	Build training around the participation of everyone, the sharing of experience and a philosophy of group cohesion, adopting a discourse and putting in place activities during and outside of practice that encourage positive interpersonal relationships

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Take coaches' skills to manage situations into account	Coaches can start by making a list of their own health promotion skills and identify those they would like to develop. Coaches can encourage other coaches, volunteers or sports participants to build health promotion actions into their coaching. Coaches can also identify whether among these people, some have skills that could be used for a health promotion project	No action	Coaches consider their own health promotion skills or those of other people within the club to set up health promotion activities (outside of training/competition; but not on a regular basis)	Coaches consider their own health promotion skills or those of other people within the club to set up one-shot health promotion activities	Coaches consider their own health promotion skills or those of other people within the club to set up structural health promotion activities	Coaches consider their own health promotion skills or those of other people within the club to set up structural health promotion activities, based on a collective mapping of human resources and know-how
Strengthen coaches' autonomy to promote health	To strengthen their ability to promote health autonomously, coaches can use existing tools to self-evaluate their strengths and weaknesses in relation to being a health promoting sports coach	No action	Be aware of what health promotion initiatives are appropriate for them to deliver	Set up their own health promotion initiatives	Implement health promotion initiatives using their skills and knowledge, approved by club members and managers who have expressed positive feedback	Be aware of one's own capacities for health-promoting practice, while knowing how to rely on resources both within and outside of the club
Identify and call attention to health promotion actions of individuals	Coaches can schedule time to invite sports participants to share their experience in dealing with their health or express their needs regarding health. They can disseminate the actions implemented through networks, can encourage or reward people who have developed initiatives or even offer help and support to people implementing health promotion initiatives	No action	Communicate the clubs health promotion actions to sports participants	Organise events to showcase good practices in individual health promotion	Propose an empowerment programme for sports participants, and advertise them in sports clubs	Establish a system for reporting exemplary action, and offer accreditation for exceptional individual contributions to health promotion

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Identify and call attention to coaches' health promotion actions	Coaches can use multiple channels within their club to communicate the impact of their health promotion actions and how they might be improved. This information can also be shared in the wider community	No action	Explicitly identify your health promotion activities	Communicate your health promotion activities and outcomes to sports participants	Ensure that club members and managers are aware of and recognize the health promotion actions you and other coaches are putting in place	Ensure that your efforts and those of other coaches to develop values, activities and a health promoting sports framework are clearly accessible via multiple channels (e.g., website, newsletter, social media...)
Identify and call attention to management's health promotion actions	Coaches can invite the managers to present the health promotion actions that they are implementing at the start of training. They can communicate actions implemented by managers and the club on a team discussion forum. Coaches can integrate, into training, actions to promote the health of club stakeholders including managers and plan times for co-construction between the managers, coaches and sports participants	No action	Communicate the health promotion actions that managers are implementing in the club	Incorporate the health promotion actions of the manager into personal practice with your sports participants	Develop programmes in collaboration with managers and ensure their active involvement so that participants can see managers investing in their health	Collaborate regularly with managers to develop values, activities and a training environment conducive to health and create discussion times for managers and participants so that they are aware of the managers' investment

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Identify and call attention to every health promotion action	Coaches can communicate about health promotion actions during meetings, events, activities organised by the club. They can take advantage of interactions with club participants or club managers to ask if they are aware of health promotion initiatives implemented within the club. They can propose times for co-construction of health promotion initiatives between all the actors in the club	No action	Communicate all health promotion actions in the clubs to sports participants, to other coaches and to managers	Introduce meetings with sports participants to discuss and evaluate the impact of health promotion initiatives within the club	Develop programmes in collaboration with all club members and ensure their active involvement so that participants can see managers investing in their health	Collaborate regularly with all club members to develop values, activities and a training environment conducive to health and create discussion times for managers and participants so that they are aware of the managers' investment
Involve parents (and other family members and friends) in health promotion efforts	Coaches can organise information meetings with parents and relatives of participants; they can encourage parents to get involved in specific tasks; they can survey the parents' motivation for being involved or including health promotion activities; they can also support this by highlighting the benefits that participants derive from health promotion activities	No action	Involve relatives in creating a health promotion activity during the sports season	Regularly organise discussion times with relatives and/or peers of sports participants to assess their needs and experiences	Develop, implement and evaluate health promotion programmes by integrating relatives and peers of participants at each stage	Involve parents/carers in setting up a health promotion training programme (e.g., needs assessment, follow-up, investment of time or money)

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Create a common culture with existing and future partners (trust, recognition, shared time)	Coaches can offer partners the opportunity to attend training sessions and share their experience and knowledge of relevant health promoting topics. They can be transparent regarding the partners' financial contributions and on healthy sponsorship of the team. They can encourage collaboration between participants and certain partners, by establishing common goals	No action	Set up a health promotion initiative during the season with a partner	Create a relationship with a partner to implement regular health promotion initiatives during the sporting season and follow up the benefits with athletes	Integrate different partners into a health team, accompanying the coaches during the sporting season	Create a long-term relationship with a partner to develop health promotion initiatives and involve them in the development of the club
Include the core goals in the plan	Coaches can establish objectives with the participants based on their needs and motivations. They can consider the objectives of promoting health in sports sessions. They can develop SMART goals (specific, measurable, attainable, relevant, time-bound) or even individualise certain objectives of promoting health	No action	Take health into account when planning training goals	Plan health promotion goals and incorporate them into the training	Develop a health promotion programme based on core objectives and inherent to training	Health promotion objectives are fully integrated into the training philosophy, activities and even the organisation of training

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Specify the target group in the implementation plan	Coaches can make a list of who and how many people are involved in the implementation of actions, they can set up reflective and discussion groups to involve the target populations, they can regularly survey the target population on their attitudes to health promotion actions or further involve the target population in the implementation, evaluation or communication of health promotion actions	No action	Rely on participants to implement (e.g., installation, organisation) one or more health promotion activities	Regularly organise discussion times with participants and/or target populations to acquire information about their needs and experiences	Co-build health promotion programmes with participants/target populations	Co-construct, co-plan and co-implement training with participants and/or target population in a health promotion logic and develop health promotion programmes with them
Specify the responsible persons in the implementation plan	Coaches can start by identifying the skills of the club members, assigning roles based on motivations and creating a team responsible for health promotion in which everyone is aware of their role. To do this, they can survey parents, managers, participants or other coaches. Once the role have been defined and allocated, this can be communicated in a clear manner within the club outlining the purpose and benefits associated with each role	No action	Discuss health promotion actions with participants	Rely on one or more sports participants to develop one or more health promotion activities during the season	Assign key roles to participants in the season's health promotion objectives and programmes realisation	Co-construct, co-implement and co-evaluate with key health promotion participants all health promotion programmes, policies and objectives

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Specify the key steps in the implementation plan	Coaches can establish a detailed schedule of health promotion actions and identify related resource needs. They can use appropriate project monitoring tools (e.g., dashboards). They can categorise the activities into distinct phases (before, during, after) and establish timeframes for the monitoring of the implementation process and key meetings	No action	Introduce a key stage for discussing health promotion with participants at the start of the season	Incorporate the key stages of health promotion into training planning and set aside time during the season to identify whether these stages have been achieved	The health promotion stages to be achieved are an integral part of training planning, and there are times during the season to check that they have been achieved and to adapt them if necessary	
Encourage sustainable health promotion actions	Coaches can work with club members to develop a step-by-step plan to promote the health of sports participants considering available resources. They can organise follow-up meetings on health promotion actions or rely on previous experiences to ensure that what is planned is achievable and sustainable	No action	Plan for continuous health promotion of your sports participants based on your own health promotion expertise	Plan for continuous health promotion of your sports participants based on your own health promotion expertise and search for support and knowledge with other people within the club	Ensure your plan is broadly supported within the club and actions are incorporated within policy/year plans	The plan is developed/integrated broadly in the club and applied by other coaches
Shape future plans and policies based on current health promotion actions	Coaches can reflect and collect feedback on the effect of current and past health promotion actions and policies. Coaches can use this to build best practice for future health promotion actions. Coaches can work collectively with other coaches/their club and/or health professionals on future health promotion objectives	Understand how health promotion can exist and is already in place through sport	Identify and communicate with sports participants on previous actions and programmes that have health benefits	Use existing tools for planning future actions on specific health themes	Use systematic evaluation of health promotion actions, with success indicators to inform programme future health promotion actions	Establish a system for monitoring health promotion actions and organise reflections with sports participants to inform future health promotion actions

**Table 3** (continued)

Intervention component	Best practice	Stage 1: Safe sports coaching	Stage 2: Coaches promoting health	Stage 3: Health promotion in sports coaching	Stage 4: Health promoting sports coaching programmes	Stage 5: Health promoting sports coaching
Plan future actions based on the evaluation of current actions	Coaches can analyse the effect of current and past health promotion actions and policies, collect feedback from target populations and integrate best practices into future actions. They can work collectively on future health promotion objectives or collaborate with health professionals to establish objectives based on evidence	No action	Draw on previous health promotion initiatives and programmes	Draw on previous health promotion initiatives and programmes and use guidelines for planning health promotion activities	Rely on systematic evaluation and reporting to develop health promotion actions with success indicators for programme implementation	Set up a monitoring system for health promotion projects, with visibility of progress to encourage other club members to draw inspiration from it and to obtain advice

results of this work have made it possible to reinforce coach involvement in a broader sports club environment. It provides concrete recommendations and levers for action to increase health promotion activity in sport clubs, by taking into account interaction with relevant stakeholders, the culture of a club, the capacity and resources of a club and directives of respective sporting federations.

Beyond filling a significant gap in understanding the application of the setting-based approach within sports organisations [38], this work addresses the paucity of studies describing the implementation process of health promotion interventions within/by sports clubs [39]. It helps establish steps for progression, with a continuous and long-lasting process, whilst illustrating, through examples of actions, how to move from individual and reactive solutions to comprehensive system-based actions, with the coach as a driver of health promotion.

Furthermore, whilst the literature on sports coaching has, in recent years, mainly focused on athlete development [40] or sport psychology [41], this work offers a broader view of the systems approach and environmental determinants of sport experiences [28], thus enhancing the ability to promote health holistically as part of coaches' activities. The results support the idea that coaches are not just sports trainers and that they can play a crucial role as public health actors in community contexts, highlighting a wider social responsibility that warrants further research.

For researchers, sports and public health professionals, and coaches themselves, it is now possible to link the knowledge and practices highlighted in existing frameworks, such as injury prevention [42] or a motivating training climate [43], with this theoretical framework for health promotion, proposing a holistic view of health. At the same time, the fact that health promotion actions are seen as systemic and linked to a variety of knowledge and skills means that interdisciplinary collaboration between coaches, health professionals and sports federation managers needs to be re-examined to enhance the health promotion potential of sports participation.

By being better able to promote health, coaches will also be better able to meet the performance and participation objectives of sports clubs [27] as well as reduce the number of dropouts (particularly among adolescents) [44, 45], since these aspects are interrelated. In order to create a virtuous circle [46], it may be necessary to initiate a cultural change in the way in which club activities are represented, for example by rethinking the definition of sporting success (often based on competitive results) or by questioning the way in which success is glorified through suffering.

However, the results of this work, which highlights the synergy between health and sports club objectives, needs to be supported institutionally (e.g., training, policies) if they are to endure (cf. [26, 31, 47]). Finally, the present work focuses on grassroots sports rather than elite sports, where the roles and experiences of mostly volunteer coaches can vary widely. This research, grounded in the realities and needs of coaches from diverse backgrounds, provides a foundation for overcoming the barriers to the development of knowledge and implementation skills reported by coaches [17], such as lack of time or the use of inappropriate language. It might be interesting in future work, since this study does not focus on a specific group or health theme, to examine how these results could be applied to different target groups in different contexts or for the development of specific health themes. Defining a health-promoting sports coach, the stages of progression, health promotion actions, and ICs are necessary steps for intervention mapping, supporting the sports workforce to empirically test these findings. Being rooted in expert opinion and coaches' self-reported activities, the present co-creation process [48] helps propose opportunities for actions based on existing practices and research evidence, showing an integration of practice-based research and research-based practices [49]. The rigorous method and the multiple-step process, involving both experts and sports coaches, used to create this theoretical foundation has helped to produce theory based on evidence and practice. This research offers coaches the opportunity to develop concrete short- and long-term strategies for health promotion, in accordance with public health research recommendations for implementing settings-based health interventions [50, 51]. A next step will be to examine the implementation and effectiveness these strategies.

There are several limitations to the present study. First, the present knowledge is derived from European participants and produced in English. Therefore, the actions and strategies might not be applicable to coaches in sports contexts outside of these countries. In addition, the data collected from a survey of coaches to identify the main health promotion actions to be undertaken at different moments of coaching was not evenly distributed between countries, with Belgium being over-represented (77% of respondents). This should be considered when interpreting these results and future research should be encouraged to ensure a wider representation of more countries. Second, the members of the expert group represent researchers who have been working in coaching and health promotion for several years and who potentially have developed a common understanding of these principles. Further integration of actors from different

levels (e.g., sports participants, parents, sports coaches, club managers, sports federations, and health professionals) in such a working group could help to overcome this limitation. Third, the extent of implementation of health promotion strategies and actions at the coach level will depend on the support provided at the club level. As such, future work should focus on developing guidance and tools for sports clubs and managers to support effective health-promoting sports coaching in practice.

## Conclusion

The present paper provides theoretical foundations and practical guidance to support coaches' health promotion efforts and activities (i.e., key health promotion actions and ICs, respectively). This work led to the development of an "implementation" guide for coaches: "Be an empowering and supportive coach: Health Promoting Sports Coach implementation guide. Copenhagen: WHO Regional Office for Europe; 2024": <https://www.who.int/europe/publications/i/item/WHO-EURO-2024-10391-50163-75563>. This work contributes to furthering the theoretical development of HPSC, closing the implementation gap, clarifying its application to sports coaches, and offering evidence-based strategies. Group discussions with coaches could be conducted to validate and/or amend the results of this study and future research is needed to test their use and implementation feasibility, delivery effectiveness, as well as the adaptability to different cultural contexts. Future work should also continue to focus on the systemic construction and evolution of the relationship between health and sport in our society.

## Supplementary Information

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Supplementary Material 1.

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## Others declarations

The writing group takes sole responsibility for the content of this article, and the content of this article reflects the views of the authors only. SW is a staff member of the WHO Regional Office for Europe. The authors alone are responsible for the views expressed in this article and they do not necessarily represent the views, decisions or policies of the institutions with which they are affiliated.

## Authors' contributions

B.T. and A.VH wrote the main manuscript text and prepared figures and tables. AVH, BT, KB, SG, and AV contributed to the research design and method definition. All other authors contributed to shared knowledge, toolkit evaluation and reading successive versions of the guidelines. AVH, BT, KB, SG, and

AV analysed the data. AVH and AV secured the funding to generate these guidelines. All authors contributed to the article and approved the submitted version.

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## Data availability

The datasets used and/or analysed during the current study are available from the corresponding author upon reasonable request: aurelie.van-hoye@univ-lorraine.fr.

## Declarations

### Ethics approval and consent to participate

Each member of the expert group and each coach responding to the survey gave informed consent to participate in the study. All experimental procedures followed the principles of the Helsinki Declaration and was approved by the University of Lorraine Data Protection Officer, registered with the Ethics Committee National Commission of Freedom of Information (French authority responsible for overseeing the protection of personal data) under number 2024-312.

### Consent for publication

Not applicable.

### Competing interests

The authors declare no competing interests.

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