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Measuring Health Promotion in Sports Club Settings: A Modified Delphi Study

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Abstract

Settings-based approaches have become an increasing health promotion focus since the World Health Organization's 1986 Ottawa Charter. While schools, cities and prisons have implemented this approach, its development within sports environments is recent. Sports are a growing leisure-time activity, requiring validated tools to measure health promotion. This study's aim was to develop an internationally validated measurement tool of sports club's health promotion activities. It is grounded in the settings-based approach and builds on theory from previous works expanding their context and knowledge. An online, 3-round international Delphi study was conducted, inviting experts in sports and health fields to participate in designing the tool. Round one created a collaborative list of items, round two validated items based on relevance, importance and feasibility and the final round classified items into one determinant category: social, cultural, environmental or economic. Panelists (69) from 13 countries participated, creating a final list of 62 items at 3 organizational levels; the sports club level included 23 items, the management level retained 20 items and the coaching level contained 19 items. This study provides several innovations; 1- it applies the settings-based approach to health promotion within sports clubs, 2- it defines each level of a sports club (general sports club, management, coaching) and determinants (social, cultural, environmental, economic) within levels, 3- the tool measures perceptions of health promotion activities by categorizing items into determinants at each level and 4- validation was made by an international expert panel. These advancements allow further research on promoting health within sports clubs.

Keywords: modified Delphi study; sports clubs; health promotion; settings-based approach; health determinants; socio-ecological approach

Introduction

According to the World Health Organization (WHO), Health Promotion (HP) is "the process of enabling people to increase control over and to improve their health". To develop this process, the Ottawa Charter (World Health Organization, 1986) pointed out the importance of a settings-based approach in health promotion based on the idea that "change is not solely focused on individuals and their health problems, but that changes are generated in organizations and communities to ensure the development of environments that support population-wide changes in health-related behavior" (Whitelaw et al., 2001). The objective is to go beyond a behaviorally focused approach and move toward a socio-ecological approach, by working on cultural, social, economic and environmental determinants of health (Glanz & Bishop, 2010). Multiple settings, such as schools (Rees et al., 2006), hospitals (Johnson & Baum, 2001), workplaces (Noblet, 2003) and cities (de Leeuw, 2009) have already used this framework when implementing HP programs. While these settings have merit, the application of the socio-ecological approach has been limited in regard to leisure settings (Fredriksson, Geidne, & Eriksson, 2018).

According to the Eurobarometer, in Europe alone, more that 33% of the population plays sports in an organized club (European Commission, 2017). Thus, studies have supported the recognition of sport clubs as health promoting settings (Kokko, 2014). Grounded in the socio-ecological approach, the health promoting sport club includes the four determinants of health (cultural, social, environmental, economic) and applies these at three organizational levels: macro- (overall policies and orientations of club activities), meso- (activities of club officials/management) and the micro-level (coaches' activities in guiding, altering or supporting actions of club members) (Kokko, 2014). As the application of the settings-based model into sport clubs is recent, evaluation tools to measure HP in sports clubs are rare and primarily focused on interviews and self-reported questionnaires (Casey, Harvey, Eime, &

Payne, 2011). In addition, a recent literature review on health promotion interventions in sports clubs found that the majority of studies did not use validated measures, but rather non-validated, qualitative measurements (Geidne et al., 2019). Furthermore, those that have been validated are culturally specific (Casey et al., 2011; Kokko et al., 2009). To our knowledge, two Delphi studies at a national level to identify indicators of health promoting sport clubs, one national Delphi study aimed at policies, practices and capacity and one international Delphi study focusing on social responsibility in sports clubs have been completed.

The first was based on the Ottawa Charter and the settings-based approach with the aim of identifying standards for health promoting sports clubs. (Kokko, Kannas, & Villberg, 2006) Consensus on 22 HP standards was reached by 27 Finnish experts. Standards were classified into 4 categories: policy, ideology, practice and environment. The Health Promoting Sport Clubs index (HPSC) was then validated among a Finnish sample of clubs, officials and coaches, which yielded the HPSC index (Kokko, Kannas, & Villberg, 2009). This measurement tool has been used at the official, coach and youth sports participant level in Finland (Kokko, Kannas, Villberg, & Ormshaw, 2011; Kokko, Villberg, & Kannas, 2015), the official level in Belgium (Meganck, Scheerder, Thibaut, & Seghers, 2015) and a modified version was tested at the club (macro) level in Ireland (Lane, Murphy, Donohoe, & Regan, 2017) and the coaches level in France (Van Hoye, Heuzé, Meganck, Seghers, & Sarrazin, 2018; Van Hoye, Sarrazin, Heuzé, & Kokko, 2015).

A second Delphi study was conducted in Australia to determine aspects of sports clubs necessary for developing healthy sporting environments for children (Kelly et al., 2014). Involving 46 experts who rated standards relating to seven health promoting themes: healthy eating, sponsorship and fundraising, alcohol management, smoke-free environment, sun protection and social inclusion. Key HP areas were added from the Finnish Delphi study

including; smoking and tobacco use, healthy eating and social inclusion (Kokko et al., 2006). These standards have yet to be directly used or tested among sports clubs.

A third Delphi study was primarily concerned with the social responsibility of sports clubs and how health promotion fits into this framework. (Robertson, Eime, & Westerbeek, 2018) It included a panel of 56 experts (sport management journal academics and national sport organization managers) from 14 countries. Consensus identified 33 items among 7 social responsibility dimensions: human rights, labor practices, economic, governance, community development, fair operating practices and environment. These items have not been tested or validated within sports clubs to produce a measurement tool.

The Health Promotion in Sport Assessment Tool (HP-SAT) captures sport related policies, practices and organizational capacity across events and sports clubs, by questioning state sport organizations (Casey et al., 2011), not sports clubs directly. Validation was done using a test-retest reliability method among 22 sport state organizations in Australia. It included a general organizational capacity section and the following dimensions: smoke-free environment, responsible serving of alcohol, sun protection, healthy eating, injury prevention, club management, welcoming and inclusive, violence in sport and other. This tool was based on both a Delphi study and the HPSC index (Kokko et al., 2006, 2009).

Around the world, sports clubs are diverse and health behaviors vary between countries (e.g., sun protection, nutrition factors) thus, indicators relevant to diverse cultures and sport systems are required (Kokko et al., 2016). Furthermore, approaches to health promoting sports clubs vary, including approaches based on the setting (Kokko, Selänne, et al., 2015), capacity building (Casey, Harvey, Eime, & Payne, 2012), social responsibility (Robertson et al., 2018) or specific behaviors (Kelly et al., 2014) which should be considered when building measurement indicators. Several limitations of previous works were identified: 1- mostly non-

validated, qualitative tools exist therefore no instrument rooted in a theory-based framework has been fully validated, 2- several culturally specific tools were found yet, no international consensus centered on health promotion measurement in sports clubs and 3- the existing qualitative tools do not take into account the many determinants of health (social, cultural, environmental, economic), each classified at the three operational levels of sports clubs. The aim of this study is to reach an international consensus to create a measurement tool grounded in the settings-based approach at the macro- (club), meso- (management) and micro- (coach) levels of health promotion in sports clubs. This tool is for use by management, coaches and sports participants to evaluate perceptions of health promotion orientation, guidance and activities within their club.

Methods

Study design

A Modified Delphi method was chosen to elicit expert opinion on items to include at each level, within each determinant. The Delphi method is described as a method for structuring group communications, so that the process is effective in allowing a group of experts to reach consensus regarding a complex problem (Okoli & Pawlowski, 2004). This method has the advantage of collecting experts' perspectives without confronting them directly thereby keeping responses anonymous. The Delphi method consists of establishing rounds of questions where each round builds on the previous rounds' responses. A series of 3-rounds was conducted which included stages of item selection, generation, modification and ranking.

Panelists

Sixty-nine experts were contacted, having one of three profiles (academic, sport club director/management, sport/health institution), at least 5 years of experience within their field and a working knowledge of English. Location and profession were taken into account to ensure

diversity and international representation. Panelists were chosen from members of the Sports Clubs for Health group (SCforH), the Health Enhancing Physical Activity (HEPA) Europe working group and snowballing from the researchers.

Preparation

The research team convened twice to review the existing tools, compile indicators, detect similarities and reformulate some items. Initial items were chosen based on a literature review (Geidne et al., 2019), the three previously mentioned Delphi studies (Kelly et al., 2014; Kokko et al., 2006; Robertson et al., 2018) and the two validated measurement tools: the HPSC index (Kokko et al., 2009) and the HP-SAT scale (Casey et al., 2011). Items from the adapted versions of the HPSC index were also included (Kokko et al., 2011; Kokko, Selänne, et al., 2015; Van Hoye, Heuzé, Van den Broucke, & Sarrazin, 2016). The research team clarified and refined the definitions of each sports club level (macro, meso, micro) and the determinants within each level (cultural, social, environmental, economic) based on the work of Kokko (Kokko, 2014).

Round 1

The first round helped to select and propose initial items and classify them at the three levels (macro, meso, micro). Respondents were given the opportunity to delete and/or reformulate items in order to establish a stable list. Panelists used three criteria for item selection: relevance (how relevant is the item in regard to the concept in sports clubs?), feasibility (how feasible/doable is it for sports clubs?) and importance (how important is this item in regard to other priorities?). Experts were able to duplicate items from one organizational level to another (i.e., macro-, meso-, micro-), to reformulate, modify, clarify and add supplemental information such as explanations.

Round 2

The second round, included new suggested items and reformulated items from round 1. Panelists were asked to validate the proposed items and to delete or add new items if they had suggestions or felt items were problematic, duplicated or complicated. In addition to the three criteria from round 1, panelists rated items based on sports culture within their country. Items with a 70% agreement were established on the list.

Round 3

Researchers organized items into a specific determinant at each level to propose to panelists (Figure 1). Panelists were asked to rank each item within the designated determinant per level. Item ranking was based on feasibility, importance and cultural relevance. If an item was not considered necessary, they had the option to leave it out of the ranking. The aim was to prioritize between 5 – 10 items per determinant with a minimum of 3 per category.

Data collection

An email explaining the study's purpose, procedures and a consent clause was sent requesting participation. Surveys were sent in English to all 69 experts in each round regardless of previous round participation via the web-based software (limesurvey.com). Rounds were expected to take 45 minutes to complete. Panelists were given two to three weeks to complete each round; non-respondents were sent an email reminder after 7 days.

Analysis

Consensus for round 1 and 2 was reached with 70% expert agreement on item relevance, feasibility and importance. Satisfactory consensus was met with panelists mentioning that they 'Do Rather' to 'Totally' agree (on a six-point Likert scale from 'Do Not Agree at All' to 'Totally Agree') with the proposition on each the three criteria. Strong consensus was described as any coded response that received a mean score of $\geq$4 and an interquartile range (IQR) $\leq$1, moderate

consensus to any mean score ≥3.75, or if an IRQ ≤1.25 (von der Gracht, 2012). After round 2, a qualitative analysis of the items classified as not relevant to panelist's culture was carried out to decide to exclude, keep or reformulate the item. During round 3 analysis, a weighted-point value based on number of items per organizational level and determinant was used to rank items for each panelist's answer. Depending on the number of items per determinant (e.g. 7), 7 points were awarded for the highest ranked item, 6 points for the second, 5 points for the third item and so forth. Scores were then averaged per item and the five highest scores within each determinant were retained. If there were less than 5 items in a determinant, researchers retained them all for the final questionnaire.

Results

Item levels with determinant classification, reformulations and agreement percentages for feasibility and cultural relevance can be seen in *Table 1*. A flow chart of the number of panelists participating per country in each round can be seen in Figure 2.

In the first round, the response rate included 41 experts (59%) accessing and 31 (45%) answering the questionnaire. Males (n = 16) outnumbered females (n = 12) while 3 respondents did not specify gender. Panelists were from 9 different countries across Europe and Australia with a balance of academics (n = 12), non-governmental sports organization (NGOs) members (n = 11), as well as others in sports and health related sectors (n = 6). The first round included 31 items at the macro, 11 at the meso and 17 at the micro level. All items were considered relevant, feasible and important to HP at the meso and micro levels. The only items to fall below 70% were at the macro level; 2 in feasibility and 2 in importance which were subsequently reformulated. Panelists added two items at the macro level. Duplicated items included 18 from both the macro to the meso level and from macro to the micro level, 2 items were duplicated from the meso to the macro level and 4 items from the meso to the micro level, as well as 2

from the micro to the meso level and 3 from the micro to the macro level. After duplication and reformulation of items by the research team, the second round consisted of 38 items at the macro level, 27 at the meso level and 26 at the micro level.

Twenty-four experts (35%, 14 males, 8 females, 2 not specified) from 11 countries across Europe, Australia and Canada responded to the second round. The panelists were comprised of 9 academics, 9 NGO members and 4 others from the sports related sector. Of these panelists, 14 completed the first round and 10 were new to the second round. After the second round, 5 items at the macro level, 4 items at the meso level and 3 items at the micro level were deleted as they did not reach 70% consensus for feasibility or cultural relevance. These items were mostly centered on evaluation of HP actions, selecting coaches in regard to HP qualifications, providing materials (kits, packs, tools) to support coaches' HP actions, including participants in the decision making process and balancing time spent on sport activities with other daily activities. The lowest consensus received was at the micro level for the feasibility an item receiving a rating at only 56.2%. The other two lowest scores were at the macro level again with feasibility only achieving 61.5%.

The third round required experts to order and rank the items. At each level, panelists arranged items within the four determinants of health promoting sports clubs in order of highest priority. Nineteen (28%) experts completed the survey (8 males and 6 females; 5 did not specify gender) from 6 countries across Northern Europe and Australia, comprising 6 academics, 4 NGO employees and 5 others in the sports sector.

At the end of the third round, the macro level contained 23 items; 7 cultural determinants, 6 social determinants, 5 environmental determinants and 5 economic determinants. The meso level included 20 items; 6 cultural determinants, 5 social determinants, 5 environmental determinants and 4 economic determinants. The micro level had 19 items; 6 cultural

determinants, 5 social determinants, 4 environmental determinants and 4 economic determinants. The majority of items dropped (10) were at the macro level, most from the cultural and environmental determinants. Due to the lack of participation from North America, Asia and Africa, an e-mail was sent to 8 experts from these countries requesting their validation on the final list of items. Two North American academics provided validation. The final list, divided by sports club level and categorized into their respective determinant, can be seen in *Table 2*.

Discussion

A Delphi method with 3-rounds was used to achieve international consensus from 13 countries. The final tool encompassed 62 total items: 23 at the macro, 20 at the meso and 19 at the micro level. During round 1 and 2, ratings were based on feasibility, importance and relevance. In both these rounds, the feasibility indicator received the lowest consensus. Many panelists felt items were important and relevant for HP but not feasible, especially at the macro and micro levels. In comparison to other settings, such as schools which have curriculums and paid employees, sports clubs are often run by volunteers with limited budgets, viewing their primary objective as sports performance (Geidne, Quennerstedt, & Eriksson, 2013; Kokko et al., 2009; Van Hoye et al., 2016). This point reinforces results from a previous literature review showing that the settings-based approach is rarely implemented within sports clubs (Geidne et al., 2019). Another strength of this study lies in the development of a tool with cultural applicability in many sport systems, as broad variations have been noticed in previous works (Casey et al., 2011; Kelly et al., 2014; Kokko et al., 2016) and suggestions have been made for wider diversity in regard to geographical reach (Kokko et al., 2016). Therefore, round 2 specifically incorporated a rating of cultural relevance. Several items fell below the 70% agreement level in this area, for example the item: ‘My sports club ensures the balance between sport activities and participants’ other

daily activities is considered in coaching practice' was duplicated at all three levels but not found to be culturally relevance at any level. This may further demonstrate cultural differences. In addition, one of the lowest agreed upon items for health promotion relevance was in regard to financing: 'The sports club ensures that health promotion activities are being properly resourced (e.g. staffing, financial summaries, highlights or case study reports)'. Sports clubs are funded in different ways depending on the country therefore, they may consider financing health promotion as the duty of their governing body while the club typically targets increasing participation rates (Eime, Payne, & Harvey, 2008). Primary directives must be kept in mind when encouraging sports clubs to promote health. Interestingly, one of the lowest ranking items in importance had to do with offering flexible membership options, which is frequently cited as a barrier to sport club participation (Somerset & Hoare, 2018). If flexible membership options were offered in more clubs, this might have the effect of attracting new members. This demonstrates the difference in perceptions between levels; managers may not have the impression that membership options are a high priority however sports participants may perceive this as paramount.

Current research has centered on the sports club as an entity (macro level) (Kokko et al., 2016), whereas this measurement tool is based on 3-levels (management, coaches and sports participants); offering the ability to compare perceptions of sports participants to those of their coaches and likewise comparisons from coaches to management. Previous studies have shown that interventions at multiple levels are more effective (Jackson et al., 2006) because actions at one level are often dependent upon the policies and guidance of higher levels (Kokko, 2014). For example, at the macro level, the highest ranked item for importance and relevance was: 'My sports club's regulations include a written section on well-being and/or health promotion and/or health education and/or healthy lifestyle'. This item directly links to one of the highest ranked items for importance at the micro level, 'My coach(es) follow(s) sports

club's health promotion regulations and policies'. Because each level addresses the levels below, (coaches and volunteers answer the macro and meso level) if no written policies exist or they are not expressed to the coaches from the management level, HP efforts are difficult to realize. The addition of determinants at each level displays the complexity of the relationship between individuals and the sports club environment. Determinants indicate areas for sports clubs to focus on within each level for future planning.

Although other tools exist, this study has created a comprehensive tool incorporating multiple components of measuring current health promotion within sports clubs. By considering health determinants, it can better guide stakeholders in creating policies and action plans to impact clubs at each organizational level.

Limitations

This study provides a first step towards an internationally developed measurement tool for assessing health promoting sports clubs, but some limitations must be acknowledged. Although experts from each part of the world were invited to participate in each round, not all countries responded, meaning this tool might not be applicable everywhere in the world. A second limitation exists regarding the panelists that chose to participate in the study. Their views may be different from those that declined participation therefore, the final item list may not fully represent experts in both the HP and sports club fields. In order to minimize this limitation, one final email was sent out to the initial 69 experts requesting comments on the final list of items. Only two return emails were received; one from a Canadian academic expert and one from an American academic.

Implications for Practice and Future Research

Many researchers and government agencies have called for innovative settings to promote health (Geidne et al., 2019; Kokko et al., 2016; World Health Organization, 1986) a tool such

as this can be a first step to include sports clubs. Previous research has demonstrated a link between health promotion, positive sport experience and perceived health thus, increased development to promote health within sports clubs is needed (Van Hoye et al., 2016, 2015). This international Delphi study reached consensus after 3-rounds on the most important, feasible and relevant items to monitor health promoting sports clubs. By measuring social, cultural, environmental and economic determinants of health at three levels, this is a more comprehensive measurement tool for comparing health promotion perceptions between sports participants, coaches and management. Several practical implications can be taken from the development of this tool: 1- allow comparisons of participants', coaches' and management perceptions of health promotion done within sports clubs, 2- highlight areas for improvement within each determinant per level and 3- shed light on the capacity of sports organizations to implement and monitor health promotion policies and practices. Once the Delphi study was completed, the measurement tool was translated from English into French with a classic double translation procedure. The tools have been tested for comprehension and the next step is validation within both an English speaking and French speaking population.

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Figures & Tables:

Figure 1: *4 Determinants at 3 Organizational Levels*

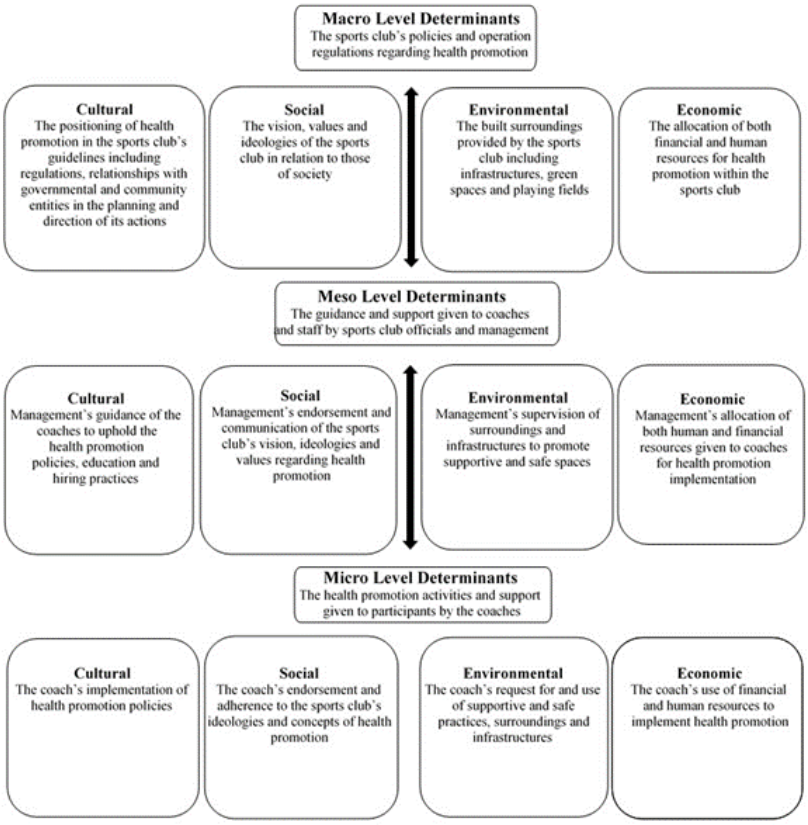

Table 1: *Results from the 3 Rounds*

Level	Item	Feasibility %	Cultural relevance %	Determinant
		Round 1	**Round 2**	**Round 3**
Macro	**The (My) sports club assures that health education (…) is carried out (in their daily activities)	79%	85%	Cultural
Macro	*The sports club collaborates with external actors to promote health	94%	100%	Economic
Macro	The sports club (has) clearly defines and understands the roles. responsibilities and expectations when working with other sectors (transport, health) to promote health	88%	85%	Cultural
Macro	*The sports club (collaborates with) considers that sponsors and sponsorship are made in a health promoting way (banning unhealthy sponsors)	83%	92%	Social
Macro	*The sports club (allocates resources) allows financial support to health promotion actions (e.g. communication systems, administrative support, staff time)	88%	92%	Economic
Macro	*The sports club provides incentives to participate in health promotion actions	80%	78%	
Macro	*The sports club ensures that health promotion activities are being properly resourced (e.g. staffing, financial summaries, highlights or case study reports)	64%	69%	Economic
Macro	*The sports club has staff with designated responsibilities to address the health of participants (e.g. time allocation to attend meetings)	71%	92%	Economic
Macro	The sports club (has staff) ensures that people who are likely to work on sport-related health promotion activities possess sufficient skills	85%	92%	Economic
Macro	The sports club's regulations include a written section on well-being and/or health promotion and/or health education and/or healthy lifestyle	85%	92%	Cultural
Macro	The sports club's regulations include a written section on health behavior (e.g. substance abuse. injury prevention)	100%	100%	Cultural

Macro	The sports club observes health and well-being viewpoints in the sports club's decision-making process	92%	92%	Cultural
Macro	*The sports club's health promotion activities and/or state of well-being are evaluated in the Annual Report	82%	92%	
Macro	The sports club promotes the 'everyone plays' ideology	85%	100%	Social
Macro	The sports club promotes the 'fair play' ideology	100%	100%	Social
Macro	The sports club (explicitly) promotes integration and equity through sport	100%	92%	Social
Macro	*The sports club (acts ethically) cares about ethics	84%	100%	Social
Macro	The sports club (ensures a) assumes its share of responsibility for a safe sports environment (e.g. reviews the sports environment yearly in co-operation with the proprietor)	100%	85%	Environmental
Macro	*The sports club provides equitable access to disadvantaged groups through subsidies. access times. location	75%	92%	Economic
Macro	*The sport club is aware that promoting health improves its credibility and enhances sport participants' experience	90%	92%	Social
Macro	The sports club proposes safe and welcoming infrastructures and changing facilities	100%	92%	Environmental
Macro	The sports club provides signage for health behavior (e.g. non-smoking, violence prevention, warm-up)	90%	85%	Environmental
Macro	The sport club ensures up to date occupational health and safety standards and procedures	83%	85%	Environmental
Macro	*The sports club (ensures) provides evidence that target group have been included in the decision process of health promotion actions	65%	92%	Cultural
Macro	The sports club ensures the appropriate organizational governance frameworks are in place to effectively identify and manage the organization's health promotion objectives	80%	69%	
Macro	*Around the sports club. there is a favourable external environment for promoting health through sport (e.g. the community opinion and policy	73%	92%	Social

	environment support the promotion of health through sport)			
Macro	The sports club contributes to increasing social capital and community cohesion through community Involvement	91%	92%	Cultural
Macro	The sports club disseminates its health promotion actions on the media	82%	92%	Cultural
Macro	The sports club works actively with youth and participant's involvement in the decision making process.	100%	92%	Cultural
Macro	The sports club actively collaborates with parents	100%	92%	
Macro	*The sports club encourages flexible membership options (e.g. pay as you go, social member)	73%	92%	Cultural
Macro	My sports club is recognized as a health promoting setting in my community	N/A	92%	Cultural
Macro	My sports clubs offer adapted sports for people who are insufficiently active.	N/A	100%	Cultural
Macro	*My sports club selects and approves coaches who have accredited health promotion qualifications (healthy lifestyle. first aid. violence/injury prevention)	N/A	92%	Economic
Macro	My sports club provides material (kits, packs, tools) to support coaches' health promotion actions	N/A	69%	Environmental
Macro	My sports club ensures the balance between sport activities and participants' other daily activities is considered in coaching practice	N/A	77%	
Macro	My sports club provides healthy food options during sports club's activities	N/A	85%	Environmental
Macro	My sports club ensures all juvenile events are held in an alcohol-free and tobacco-free environment	N/A	92%	Environmental
Meso	Officials ensure that coaches apply sports clubs' regulations and policies	100%	85%	Cultural
Meso	Officials ensure coaches play a role model for their participants	100%	100%	Social
Meso	Officials provide information to coaches and participants on health behaviors	90%	85%	Cultural

Meso	Officials disseminate and provide guidance to coaches on health promotion actions	80%	92%	Cultural
Meso	*Officials (prefer to hire) select and approve coaches who have accredited health promotion qualifications (first aid, violence/injury prevention, criminal record)	90%	85%	Cultural
Meso	Officials encourage coaches to register for health promotion training	80%	72%	
Meso	*Officials ensure that coaches-athletes conflicts are monitored (and solved)	90%	93%	Cultural
Meso	*Officials acknowledge coaches' health promotion actions (and disseminate them within and outside the sports clubs)	90%	93%	Cultural
Meso	Officials care that training pitches are distributed and scheduled fairly across all teams in the sports clubs	80%	100%	Environmental
Meso	*Officials provide material (kits, packs, tools) (allocate resources) to support coaches' health promotion actions	77%	72%	Economic
Meso	*Officials (encourage) care that coaches engage parents (family members) in their activities	80%	93%	Social
Meso	*Officials of my sports club care about the balance between sport activities and participants' other daily activities	N/A	64%	
Meso	Officials of my sports club provide healthy food options during sports club's activities	N/A	92%	Environmental
Meso	Officials of my sports club ensure all juvenile events are held in an alcohol-free and tobacco-free environment	N/A	92%	Environmental
Meso	Officials of my sports club ensure that health education (knowledge, information) is carried out in their regular activities	N/A	86%	Cultural
Meso	Officials of my sports club solicit external actors to promote health	N/A	93%	Economic
Meso	*Officials of my sports club have designated responsibilities to address health promotion	N/A	64%	
Meso	Officials of my sports club possess sufficient sport-related health promotion skills	N/A	93%	Economic
Meso	*Officials of my sports club provide written plans for coaches' health promotion guidance activities	N/A	79%	

Meso	*Officials evaluate their health promotion activities regularly	N/A	72%	
Meso	Officials of my sports club promote the ‘everyone plays’ ideology	N/A	92%	Social
Meso	Officials of my sports club promote the ‘fair play’ ideology	N/A	100%	Social
Meso	Officials of my sports club promote integration and equity through sport	N/A	93%	Social
Meso	Officials of my sports club share responsibilities for a safe environment	N/A	92%	Environmental
Meso	Officials of my sports club ensure attention is paid to disadvantaged groups in their guidance activity	N/A	93%	Social
Meso	*Officials of my sports club are aware that promoting health improves the clubs' credibility and enhances sport participants’ experience	N/A	86%	Social
Meso	Officials include the target group in the decision process of health promotion actions	N/A	93%	Cultural
Meso	*Officials work actively with youth and participant's involvement in the decision making process	N/A	79%	Cultural
Micro	Coaches encourage their players to respect sport regulations	100%	94%	Social
Micro	*Coaches organize lectures or invite external experts as health promotion action (allocate time)	70%	89%	Economic
Micro	*Coaches treat young athletes fairly in training and game (e.g. equitable participation, skills)	100%	94%	
Micro	Coaches care about safety issues during training and games	100%	94%	Environmental
Micro	*Coaches deal with (participant's) failure in a positive way	100%	94%	Social
Micro	*Coaches understand how their own behaviour affects the health behaviour of their participants, especially youth	100%	72%	
Micro	*Coaches encourage social interaction between athletes within and outside practice/competition	100%	72%	
Micro	Coaches talk about health behavior	90%	94%	Cultural
Micro	Coaches consider health promotion also beyond sport performance	80%	83%	Social
Micro	Coaches disseminate information about health behavior to sport participants	90%	88%	Cultural

Micro	*Coaches intervene in case of substance use (alcohol/illicit substance use)	90%	89%	Cultural
Micro	*Coaches care for (and talk about) athlete's nutrition (encourages healthy food options)	80%	78%	Environmental
Micro	*Coaches balance sport activities and participants' other daily activities	100%	79%	
Micro	*Coaches care (ensure) that training is sensible/fun	90%	94%	Cultural
Micro	*Coaches care (ensure) that healthy choices are the easy choices	90%	83%	Cultural
Micro	*Healthy food options are available following (during) sports activities	70%	83%	
Micro	*All juvenile (youth) events are held in an alcohol (and tobacco) free environment	70%	83%	Environmental
Micro	Coaches follow sports club's health promotion regulations and policies	N/A	94%	Cultural
Micro	*Coaches have health promotion qualifications	N/A	67%	
Micro	*Coaches participate in health promotion training	N/A	72%	
Micro	*Coaches have designated responsibilities to address the health promotion	N/A	72%	
Micro	*Coaches evaluate their health promotion activities regularly	N/A	61%	
Micro	Coaches promote the 'everyone plays' ideology	N/A	89%	Social
Micro	Coaches promote the 'fair play' ideology	N/A	100%	Social
Micro	Coaches promote integration and equity through sport	N/A	89%	Social
Micro	Coaches ensure attention is paid to disadvantaged people (groups)	N/A	82%	Social
Micro	*Coaches are aware that promoting health improves the clubs' credibility and enhances sport participants' experience	N/A	78%	
Micro	*Coaches include the target group in the decision process of health promotion actions	N/A	71%	
Micro	*Coaches work actively with youth and participant's involvement in the decision making process	N/A	72%	

Items in grey were added in round 2
Items with a (*) were reformulated or deleted; reformulated items have added information in () rounds 2 or 3
**'My' replaced 'The' for items at the Macro level in rounds 2 & 3

Figure 2: *3-Round Expert Panelist Flow Chart*

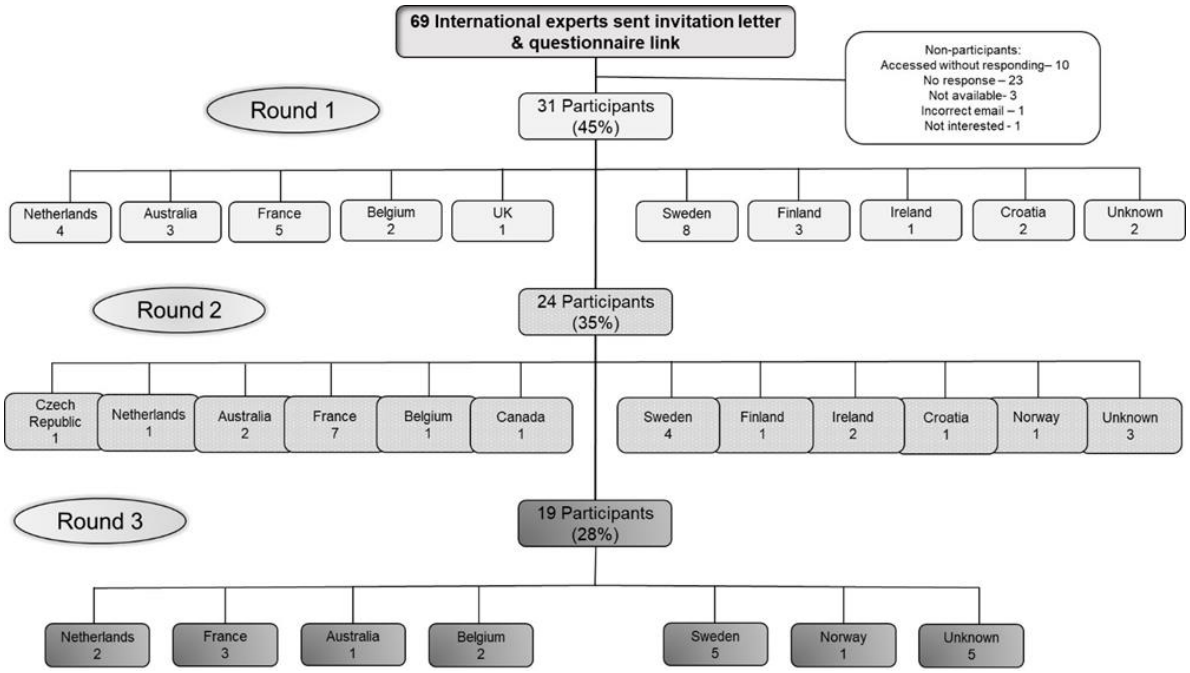

Table 2: *Final Item List*

Level	Determinant	Item
Macro	Cultural	
My sports club…		…ensures that health education (knowledge, information) is carried out in their daily activities
		…has defined the roles, responsibilities and expectations when working with other sectors (health, transport…) to promote health
		…has regulations that include a written section on well-being and/or health promotion and/or health education and/or healthy lifestyle
		…takes the health and/or well-being of staff and members into account in the sports club's decision-making process
		…ensures that target groups (e.g. parents, participants…) have been included in the decision making process of health promotion actions
		…contributes to increasing social capital and/or community cohesion through community involvement
		…offers flexible membership options or adapted sport or sport for the most inactive people
	Social	
		…promotes the 'everyone plays' ideology
		…promotes the 'fair play' ideology
		…promotes integration and equity through sport
		…acts ethically and respects moral principles
		…is aware of the benefits of promoting health (improving its credibility and/or enhancing sport participants' experiences)
		…is recognized as a health promoting setting in my community
	Environmental	
		…assumes its share of responsibility for a safe sports environment (e.g. reviews the sports environment yearly, in co-operation with the proprietor)
		…provides safe infrastructures (e.g. locker room, practice field, indoor spaces…)
		…provides welcoming infrastructures (e.g. locker room, practice field, indoor spaces…)
		…provides clean infrastructures (e.g. locker room, practice field, indoor spaces…)
		…ensures up to date occupational health and safety standards and procedures

	Economic	
		…promotes health through collaborations with external actors (e.g., municipalities, experts…) …allocates resources to health promotion actions (e.g. communication systems, administrative support, staff time) …has staff with designated responsibilities to address the health of its members …ensures that staff possess sufficient sport-related health promotion skills …provides equitable access to disadvantaged groups through subsidies, access times, location, etc.
Meso Managers of my sports club…	Cultural	
		…ensure that health education (knowledge, information) is carried out in their regular activities
		…ensure that coaches apply sports clubs' health promotion regulations and policies …include the target group (e.g. parents and participants in the decision process of health promotion actions) …provide guidance to coaches on health promotion actions …prefer to hire coaches with accredited health promotion qualifications (healthy lifestyle, first aid, violence/injury prevention) …club provide information to coaches and participants on health behaviors
	Social	
		…promote the 'everyone plays' ideology …promote the 'fair play' ideology …promote integration and equity through sport …are aware of the benefits of promoting health (improving its credibility and/or enhancing sport participants' experiences) …make coaches understand that they are role models for their participants
	Environmental	
		…take responsibility for a safe environment …care that training infrastructures are distributed and scheduled fairly across all teams in the sports club …provide healthy food options during sports club activities …ensure all events, that youth attend, are held in a tobacco-free environment …ensure all events, that youth attend, are held in an alcohol-free environment
	Economic	
		…solicit external actors to promote health

		…allocate human resources for health promotion actions (e.g. communication systems, administrative support, time) …allocate material resources to health promotion actions (e.g. materials, toolkits, signage) …sufficient sport-related health promotion skills
Micro My coach…	Cultural	
		…talk(s) about health behavior …follow(s) the sports club's health promotion regulations and policies …disseminate(s) information about health behavior to sport participants …ensure(s) that training is sensible (well thought out, age- sport-level appropriate) …ensure(s) that training is fun …ensure(s) that healthy choices are the easy choices
	Social	
		…promote(s) the 'everyone plays' ideology …promote(s) the 'fair play' ideology …promote(s) integration and equity through sport …consider(s) health promotion as more than just sport performance …deal(s) with participant's failure in a positive way
	Environmental	
		…care(s) about safety issues during training and competition …encourage(s) consumption of healthy food options All events, that youth attend, are held in an alcohol-free environment All events, that youth attend, are held in a tobacco-free environment
	Economic	
		…mobilizes sports clubs and/or community know-how to promote health …allocates time to health promotion during training and competition …has material resources (materials, toolkits, signage) available to promote health …allocates human resources to health promotion actions (e.g. volunteer engagement, time)

*For the final list, the word 'official' was replaced with 'management/director'