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Health promotion interventions in sports clubs: can we talk about a setting based approach? A systematic mapping review

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Abstract

Many researchers and authorities have recognized the important role that sports clubs can play in public health. In spite of attempts to create a theoretical framework in the early 2000's, a thorough understanding of sports clubs as a setting for health promotion (HP) is lacking. Despite calls for more effective, sustainable and theoretically grounded interventions, previous literature reviews have identified no controlled studies assessing HP interventions in sports clubs. This systematic mapping review details how the settings-based approach is applied through HP interventions in sports clubs, and highlights facilitators and barriers for sports clubs to become health-promoting settings. In addition, the mapped facilitators and barriers have been used to reformulate previous guidelines of HP in sports clubs. Seven databases were searched for empirical research published between 1986 and 2017. Fifty-eight studies were included, principally coming from Australia and Europe, describing 33 unique interventions, which targeted mostly male participants in team sports. The settings-based approach was not yet applied in sports clubs, as more than half of the interventions implemented in sports club targeted only one level of the socio-ecological model, as well as focused only on study participants rather than the club overall. Based on empirical data, the analysis of facilitators and barriers helped to develop a revised guidelines for sports clubs to implement a settings-based approach to HP. This will be particularly useful when implementing HP initiatives to aid in the development of sports clubs working with a whole setting approach.

Keywords: guidelines, socio-ecological model, coaches, sport organisations, sport management, settings-based 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” (WHO, 1986). The Ottawa Charter (WHO, 1986) pointed out the importance of a settings-based approach (Whitelaw et al., 2001) in HP. A setting is “the place or social context in which people engage in daily activities in which environmental, organizational and personal factors interact to affect health and well-being” (Nutbeam, 1998). Different settings, such as schools (Rees et al., 2006), hospitals (Johnson & Baum, 2001), workplaces (Noblet, 2003), or cities (De Leeuw, 2009) have considered this (Golden & Earp, 2012), when implementing HP interventions. The settings approach is rooted in a socio-ecological understanding about health (Dooris, 2004) highlighting the importance of the whole system of the setting (Kokko, 2014b), rather than just individual responsibility, when promoting health.

The socio-ecological model assumes not only that multiple levels of influence exist, namely: the intrapersonal, interpersonal, institutional, community and policy level, but also that these are interactive and reinforcing (Golden & Earp, 2012). However, it is not only the setting that could have an impact on its actors, but also the actors that shape the setting, i.e. reciprocal determinism (Kokko et al., 2013). While sport clubs core business is centered on sport performance (Kokko, 2011), promoting health (through for example the physical environment, the content or coaching practice) could decrease drop out intentions of members within a club (Van Hoya et al., 2016), but also enhance sport clubs’ results and performance, as well as the participant’s health outcomes.

Different authors have underlined the potential of sports clubs to become a HP setting (Donaldson & Finch, 2012; Geidne, Quennerstedt, & Eriksson, 2013b; Kokko, Green,

& Kannas, 2014) in doing their core sporting activity. Indeed, sport clubs reach a large audience and enhance physical, psychological and mental health of their participants through sport and physical activity practice (Eime, Young, Harvey, Charity, & Payne, 2013; O'Donovan et al., 2010; Rhodes, Janssen, Bredin, Warburton, & Bauman, 2017; Warburton, Nicol, & Bredin, 2006). However, other research has balanced this enthusiasm by questioning the “myth of healthism” (Holman et al., 1997), which surrounds sports. In fact, sport participants are more likely to use alcohol and steroids than non-sport participants (Holman et al., 1997; Moore & Werch, 2005; Musselman & Rutledge, 2010) and social and gender inequity in sport is still common (Alsarve, 2017; Collins, 2004). Therefore, considering sport clubs as health promoting just because of the benefits of sport practice is reductive, as they could, through their informal educational nature, also have an effect on other health determinants and on community health (Kokko, 2014; Geidne et al., 2013). The settings-based approach is grounded in previous research demonstrating that interventions developed with an explicit theoretical foundation are more effective than those lacking a theory base (Golden & Earp, 2012). This approach also points out the need to concentrate on creating feasible, effective and long-lasting interventions to test the empirical implementation of the settings-based approach in sports clubs (Kokko et al., 2016).

For sports clubs, the settings-based approach has been adapted using two types of categories (determinants and layers), with determinants (social, cultural, environmental, economic) influencing three layers of the sports club: the macro- (overall policies and orientations of a club), meso- (guidance activities of club officials) and micro-layer (coaches' activities in guiding, altering or supporting actions of club members) (Kokko, 2014b). Moreover, the settings-based approach emphasizes the

belonging within the community and other settings, especially, in this case, with local authorities, schools, or other organization that share common infrastructures (Kokko, 2014). A health-promoting sports club is a setting (which does not need to have physical boundaries) with sustained HP practices at the organization, club and coach levels of the system (Kokko et al., 2016) where the core business are sports activities performed in a health-promoting way.

Two previous Cochrane reviews focused on the effectiveness of HP strategies developed within sporting organizations to increase participation (Priest, Armstrong, Doyle, & Waters, 2008a) and the effectiveness of policy interventions implemented in sports clubs to instigate or sustain healthy behavior (Priest, Armstrong, Doyle, & Waters, 2008b). Because of the rigorous design criteria of Cochrane reviews, no publications met the inclusion criteria and therefore, none were included in the above reviews, leading to a lack of clear direction to improve HP in sports clubs. Priest and colleagues (2008a, 2008b) recognized that the only available evidence to answer the questions raised in their reviews were located in uncontrolled case studies. Recently, an integrative review of 44 publications, using the strategies of the Ottawa Charter (WHO, 1986) to understand HP for youth in sports clubs proposed a theoretical model underlining the key elements of HP such as education, participation, policy, priority design, financing and key actors including parents, coaches and officials in cooperation with related settings (Geidne et al., 2013b). This review did not differentiate between cross-sectional studies and interventions, leading to a lack of identified facilitators and barriers to sports clubs becoming health-promoting settings. Finally, an update of the Cochrane review (Priest et al., 2008a, 2008b) has been proposed, with the aim of measuring effectiveness of interventions implemented through sporting organizations in particular to promote physical activity, healthy diet, reductions in alcohol

consumption or tobacco use (Flatz et al., 2016). The present systematic mapping review of a number of empirical studies analyses sports clubs' HP interventions from a theoretical perspective using the settings-based approach developed by Kokko and colleagues (Kokko, 2014b).

This systematic mapping review analyses how the settings-based approach is applied through HP interventions in sports clubs, and maps facilitators and barriers for sports clubs to become health-promoting settings.

Method

Systematic mapping reviews are carried out to map the existing literature and subsequently identify trends and gaps that may lead to future research (Grant & Booth, 2009). Due to the large variety of health outcomes from a settings-based approach (Dooris, 2006) and the ongoing literature review on measuring effectiveness of HP interventions (Flatz et al, 2016), the present study focused on evidence driven mechanisms of HP interventions, to identify how the settings-based approach was applied to sports clubs. In other words, each article was considered as a case study, collecting empirical data on sport clubs' practices (cf. Sullivan et al., 2003).

A literature search was carried out in the spring of 2017 over a timeframe between 1986 and the 1st of May 2017 in the following databases: Medline, The Cochrane Library, SPORTdiscus, ERIC, PASCAL, PsycInfo, ISI Web of Knowledge. The key concepts were health promotion/health, sports club/organized sport and intervention/initiatives used with different synonyms suitable for different contexts.

The main inclusion criteria for study selection were (a) to consider English peer-reviewed articles, (b) to describe an HP intervention within sports clubs, targeting sports participants, coaches and officials, not only spectators. Interventions are defined in a wider sense as; *“to disturb the “natural” order of things or a foreseeable sequence*

of events” (Hawe & Potvin, 2009), (c) empirical studies. Excluded studies focused on (a) settings other than sports clubs (defined as having *“in common, the provision of opportunities for competition and sports practice, while some can also be considered social organizations, promoting social welfare and health”* ,(Donaldson, 2012), this excludes for example: (a) extra-curricular activities organized by schools and sport-for-development programs organized by communities, (b) sport performance enhancement only, (c) management process without mentioning anything health-related, (d) protocols and reviews. The first and last authors independently assessed titles and abstracts using Covidence software. In case of disagreement, a decision was made by a third researcher. The PRISMA flow diagram (Moher, Liberati, Tetzlaff, Altman, & Group, 2009) describes the article selection process (Figure 1).

Content was extracted and analyzed descriptively, reporting: title, date of study, location, characteristics of the intervention (behavior focus, sport, name, public targeted, component of intervention), layer of the sports club included in the intervention (micro, meso, macro) (Kokko, 2014b), targeted socio-ecological level (intrapersonal, interpersonal, institutional, community and policy) (Golden & Earp, 2012), theory-driven or model driven intervention (Glanz & Bishop, 2010) and study design and methods used (Appendix 1). The layer of the sports club was coded in regard to the actors implicated in the intervention, reported in the articles. For example, if coaches of a sports club were involved in a specific intervention, we coded the intervention as being at the micro-level.

Facilitators and barriers were analyzed qualitatively using a theoretically driven coding process according to the 14 statements of the guidelines for best practice for sports clubs to enhance health promotion as a part of their activities (Appendix 2) (Kokko,

2014a). Each facilitator and barrier (both explicitly mentioned as one and interpreted as one) identified represented a meaning unit, which was classified within a statement (Appendix 2), and used to reformulate the previously generated guidelines for best practice in sports clubs. As an example of the coding process, the quote *“communicating the roles and responsibilities of all groups involved in the program was important for ensuring partnership programs were implemented”* (Casey et al., 2009; p. 138) was categorized together with other contributing meaning units into statement 7: “Collaborate with other clubs” (Kokko, 2014a) and then modified to become: “Collaborate with other agencies (clubs, health agencies and practitioners), by a building common culture (trust, recognition, shared time) and a process for collaboration (clear roles, shared experiences, contract specification, evaluation of results, power balance between partners)”.

RESULTS

Descriptive Analysis

Overall, a total of 58 studies were included in this literature review (Figure 1 and Appendix 1). Almost half of the articles were based in Australia, followed by England, USA and Canada (Table 1). Only two multi-country articles were found, comparing countries in Europe. Publication dates started in 1995 and proceeded thereafter with 2 articles before 2000, 32 between 2011 and 2015 and 9 in 2016 and the beginning of 2017 (Table 1). The most common sport settings studied were soccer and rugby or its regional variation. The target group for the intervention was principally sport participants (n=24) without specifying target group or age. The most targeted behaviors

were alcohol (n=10) and increasing physical activity or sport participation for health benefits (n=9) (Table 1).

Application of the settings-based approach

The reviewed studies included 33 unique interventions, with one being cited five times (the Good sports program, cf. Rowland, Allen, & Toumbourou, 2012a) and two others twice (Healthway, cf. Giles-Corti et al., 2001 and Community Sport Program, cf. Marlier, Cardon, De Bourdeaudhuij, & Willem, 2014). The interventions were mostly delivered at an intrapersonal level (n=29) followed by institutional, interpersonal, community and policy based programs. Some interventions acted on more than one level (Bruun et al., 2014; Geidne, Quennerstedt, & Eriksson, 2013a). Two of the studies (Lane, Murphy, Donohoe, & Regan, 2017; Reilly et al., 2011) were interventions that included several initiatives on all levels (Table 2).

The interventions on the intrapersonal level often consisted of increasing participation in a particular sport together with some sort of health education for the players involved (McConkey, Dowling, Hassan, & Menke, 2013; Tighe & McKay, 2012). The interpersonal interventions included health education for coaches, parents or families (Gianotti, Hume, & Tunstall, 2010; Larsen et al., 2015) while institutional approaches targeted club officials or staff through, for example, training for policy implementation for responsible alcohol serving practices (Rowland, Allen, & Toumbourou, 2012b) and organizational change strategies (Crisp & Swerissen, 2003).

Interventions that had a community level component focused, for example, on implementing cross-sector partnerships, capacity-building strategies and awareness campaigns (Marlier et al., 2014; Misener & Misener, 2016). The only explicitly policy focused intervention was a system-wide health promotion program directed at State

sporting organizations (Casey, Harvey, Eime, & Payne, 2012). The majority of the studies reported interventions on a single layer, principally the macro and micro elements of the sports club (n=42) (Table 2). More than half (n=35) of the included studies did not use a specific theory- or model- based intervention. The most common theories used were the settings-based approach, socio-ecological model and behavioral ecological theory (Table 2).

Study design and methods

In the reviewed studies, eight were controlled pre- and post-trials (with five randomized), nine were pre- and post-studies (one of them qualitative) and 41 were cross-sectional and included process evaluations, quantitative and qualitative studies and case studies (Appendix 1). The outcomes of the interventions were measured principally through qualitative data collection methods (n = 21). Seventeen studies used un-validated questionnaires or surveys, and a further eight used validated self-reported measures of health (e.g., self-esteem, quality of life, physical activity). Only two studies (Casey et al., 2012; Lane et al., 2017) used validated measures of HP (HP-SAT and HPSC-index). Seven studies principally collected data on the implementation process and three gathered objective measurements of behavior (e.g., rate of alcohol in blood, birth rate).

Facilitators and barriers

The reformulated statements, based on the content of the meaning units in the included studies, are presented in Figure 2 (for details: Appendix 2). Statement 1 covered the sports clubs' will to practice health promotion in their clubs. Our results have shown that 'will' can be described as sports clubs and personal previous experiences and

endorsement, organizational readiness and rationale. Statement 2 described the importance of writing down the aims in a “language of sport”. Our empirical data clarified this last concept, defining it as having a positive message (stemming from positive psychology and a salutogenic approach), but also taking the culture of the club and social inequalities into account. To prioritize the most relevant HP aims, as statement 3 entails, had to be done with some strategy, such as the socio-ecological model and had to relate to the sports clubs’ identity. The financial and human resources of a sports club, targeted in statement 4, can be quite diverse between organizations. Financial resources can be both subsidiary as well as sponsorship and the human resources often consist of both paid and volunteer staff often with substantial turnover. Statement 5 focused on the importance of role models and was modified as empirical work describing the importance of time allotment and being recognized as a leader of the development process. Statement 6 was reformulated to include processes by which to engage all of the club officials. Here, a bottom-up approach focusing on trust and shared interests was added from the included studies. Statement 7, regarding collaboration with other clubs, has been extended to include collaboration with related external partners, clarifying the complex process of collaboration, by adopting clear roles and a power balance. The importance of taking costs, time but also enjoyment into account when evaluating the feasibility of HP aims has been added to statement 8. Creating a clear implementation plan has been described in more depth, identifying key indicators of this process (e.g., target population, funding mechanism, core objectives) in statement 9. To communicate the intervention internally (statement 10) can be helped if the message is clear, explicit and inclusive as well as visible to both internal and external actors. Strategies to motivate the coaches regarding the importance of HP (statement 11) have been added, like fostering interpersonal

relationships, autonomy, sense of ownership and career opportunities. Also, criteria describing coach education, such as varying support and strategies, using a participatory approach and focusing on specificity of the public coached have been included in statement 12. Monitoring (statement 13) and evaluation (statement 14) has to be integrated into daily practice, valuing a small win philosophy and long-term vision, in order to refine future planning.

DISCUSSION

The present systematic mapping review analyzed how the settings-based approach is applied through HP interventions within sport clubs and mapped facilitators and barriers for sports clubs to become health-promoting settings (Kokko, 2014b).

The analysis of 58 studies has revealed several gaps in the literature. First, the majority of the research reviewed is based in Australia and Europe, with only two multi-country studies. Such results limit an understanding how cultures and sport systems impact sports clubs as health-promoting settings in other parts of the world. Secondly, nearly 60% of the interventions were targeted to males in team sport settings (rugby, soccer, multiple team sports). As the relationship between sport participation and health behavior is impacted by the type of sport (Moore & Werch, 2005) and the image of such team sports conveys Bourdieu's Masculine domination (Brown, 2006). Broadening studies to other population groups is needed to better comprehend the impact of the type of sport practice to understand how gender, type of sport and health interact (Robertson, 2003). Thirdly, interventions in almost half of the studies did not differentiate between specific target groups, but targeted sport participants in general, potentially questioning the specificity of sports and physical activity promotion within sport clubs (Geidne & Jerlinder, 2016) and subsequently if sports clubs are recognized

as a context for the promotion of adapted physical activity or sports-for-all. Fourthly, most of the interventions focused on a single health behavior, in one layer of the sports club and mostly on intrapersonal level rather than adopting a whole setting approach to HP, which could lead to lack of change in the structure and ethos of sport clubs. Fifth, two thirds of the studies were descriptive and the majority did not use validated measurements, confirming the lack of controlled designs noted in previous literature reviews (Priest et al., 2008a, 2008b) and the challenges associated with conducting randomized controlled trials in sports clubs, due to the tendency for HP interventions to be implemented by actors and not researchers (Baxter, Killoran, Kelly, & Goyder, 2010). It must also be noted that there is a paucity of validated HP measurement tools within sports clubs, with only two validated scales at the macro-layer, the HPSC-index (Kokko, 2009) and the HP-SAT (Casey, Harvey, Eime, & Payne, 2011). Therefore, most included studies missed the opportunity to fulfill the challenge of capturing health and behavior change as well as the interactive and reinforcing determinants in the community setting that may impact the effectiveness of the intervention (Golden & Earp, 2012). Furthermore, the absence of rigorous evaluation limits the assessment of effectiveness and may result in interventions with possible negative outcomes being used (Beckman, Svensson, Geidne, & Eriksson, 2017; Liddle, Deane, & Vella, 2017). The lack of evaluation of the implementation process could hinder the identification of facilitators and barriers, as well as understanding how interventions fit in the sports club setting in regard to contextual factors and transferability (Green & Kreuter, 2005).

The application of the settings-based approach in sports clubs is at an early stage. Due to the difficulty to translate HP initiatives into wider settings achievements a trend toward separate HP initiatives, rather than the development of a health-promoting

setting has earlier been shown (Whitelaw et al., 2001). Similar conclusions can be drawn by this present work, as interventions were mostly implemented at one level (intrapersonal), on one layer and the empirical use of the settings-based approach was not well implemented. The challenge of becoming a health-promoting sports club is a long term achievement, where HP interventions can be the first steps to achieve a whole setting approach. Efforts are needed to improve practitioners' confidence in sports clubs as health-promoting settings, especially as they think that current HP initiatives are not enough (Poland, Green, & Rootman, 1999; Van Hoya, Sarrazin, Heuzé, & Kokko, 2015), but are not sure how their HP initiatives fit in the setting (Whitelaw et al., 2001). Geidne (2012) argues, that doing HP in settings can be thought of as an early stage of the development of a health-promoting setting, considering a small win philosophy, where "one small win may seem unimportant, but a series of small wins 'reveals a pattern that may attract allies, deter opponents, and lower resistance to subsequent proposals" (Corti, J. Holman, Donovan, Frizzell, & Carroll, 1995, p. 194)

As mentioned, the interventions included were mostly implemented at the intrapersonal level, targeting sport participants directly. A previous literature review on health interventions has shown that interventions focusing on structural changes and provision of resources reduced health inequalities, whereas interventions focused on intrapersonal factors were less effective in taking social inequalities into account (Lorenc, Petticrew, Welch, & Tugwell, 2013). Moreover, nearly three quarters of the interventions targeted only one layer, where evidence has shown that multilayer interventions are more effective (Jackson et al., 2006). In other settings, like schools, at least two levels have been targeted (Richard, Gauvin, & Raine, 2011), but this is evidently not the case in sports clubs. The focus on the intrapersonal level slows down

the understanding about the interactions between interconnected individual and contextual factors (Golden & Earp, 2012) and prohibits the implementation of a settings-based approach in sports clubs (Kokko, 2014b). Despite this, interventions focusing on more than three levels have all been conducted since 2011 (cf. Bruun et al., 2014; Geidne et al., 2013a; Lane, Murphy, Donohoe, & Regan, 2016). In addition, the overall number of published articles has increased, showing progression in the development of a thorough settings-based approach in sports clubs.

In reality, this approach is recent within sport clubs (Kokko, 2014b), thus the empirical application and understanding in intervention implementation is lacking. Considering that sports clubs are settings principally based on volunteer work with a core business centred on sports, (Kokko, Kannas, Villberg, & Ormshaw, 2011) the feasibility of a settings-based approach at each level and layer is currently limited. This issue is further compounded by the fact that sports clubs lack criteria to evaluate what is needed for them to become health-promoting settings. The reformulated guidelines of this study add some clarity in sections such as relevant tools, methods and actors that can be used in the sports clubs setting. This is important because all sports clubs begin from their unique starting point and the guidelines will be relevant to the sports clubs if they can identify with them.

Theoretically based guidelines have been published to help support the implementation of the settings-based approach within sports clubs (Kokko, 2014b). The present review has added practical examples of strategies that have worked in previous HP interventions, which helped to give more context to the guidelines and a better understanding about the fit of HP interventions into sports settings (Green & Kreuter, 2005), even taking diversity into account. The aim for all sports clubs may not be to fulfill the guidelines in total but to strive for them in a way that makes sense for

each particular organization. This can help sports clubs develop beyond implementing separate HP initiatives to evolve into a health-promoting setting. The challenges associated with the volunteer intensive nature of community sport and the context, structure and organization of local-level sport and clubs (Kokko et al., 2016) force sports clubs to start from different levels and with different ambitions, but do not hinder even the smallest club from having a HP perspective fitting their prerequisites. Or, as Kokko and colleagues (2016) stated, “starting from a generic HP in settings approach to achieve a more specific sports club-based HP – via settings-based HP”.

There are also some limitations to this study that should be mentioned. First, sports-based interventions/sport-for-development program, as well as physical activity programs were not included, because these were initiatives implemented outside the sports clubs setting. However, these types of programs could be used, by communities in cooperation with sports clubs, as a “hook” to get people involved in sports club activities. Second, the review did not measure the effectiveness of interventions, as this work is currently being carried out in a Cochrane review. Third, searching for literature in this field made us realize the overlap between health promotion and sports management literature, where interventions regarding, for example, organizational change could have similar content and outcomes, but be described with different language and with different frameworks and theories framing them. This could have resulted in us missing some interventions concerning, for example, democracy or integration, because they were not framed within health promotion. Related to this is that bottom-up initiatives are less researched than externally driven interventions (Geidne & Jerlinder, 2016). Fourth, in this study we were not able to use the determinants of sports clubs (Kokko et al., 2013), due to a difficulty of identifying how

they were defined. Future work is needed to conceptualize the settings-based approach in a more testable framework, to support and identify the key ingredients of sports clubs as health-promoting settings. Finally, using guidelines developed in a Nordic country for an international sample of studies could be a limitation, but, considering that the content was supported by a majority of Australian studies and also studies from other European countries, made it a strength.

CONCLUSION

The present systematic mapping review analyzed how the settings-based approach is applied through HP interventions within sports clubs and identified key facilitators and barriers for successful implementation of the settings-based approach in sports clubs. The results identified several gaps: (1) most research represents Australian and European cultures and sport systems; (2) interventions were principally tested on males in team sports; (3) most studies focused on sports participants with limited engagement with specific population groups; (4) interventions focused on a single behavior rather than global health promotion (5) study designs were principally descriptive and lacked validated measurements. Future research should seek more diversity in terms of a wider geographical reach, type of sport and participants targeted, but also a more comprehensive approach towards HP, as well as more rigorous evaluation methods. As in other settings, sports clubs implement HP initiatives, but, they do not yet use a settings-based approach to HP As stated previously (Kokko, 2014b), the process is at an early stage and actors need to build on a small win philosophy to develop a long-term vision. The revised guidelines could be a useful tool for achieving this aim and conceptualize sports clubs as health-promoting settings in a more implemented and testable way.

REFERENCES

- Alsarve, D. (2017). Addressing gender equality: enactments of gender and hegemony in the educational textbooks used in Swedish sports coaching and educational programmes. *Sport, Education and Society*, 1-13.
- Baxter, S., Killoran, A., Kelly, M., & Goyder, E. (2010). Synthesizing diverse evidence: the use of primary qualitative data analysis methods and logic models in public health reviews. *Public Health*, 124(2), 99-106.
- Beckman, L., Svensson, M., Geidne, S., & Eriksson, C. (2017). Effects on alcohol use of a Swedish school-based prevention program for early adolescents: a longitudinal study. *BMC Public Health*, 17(1), 2. doi:10.1186/s12889-016-3947-3
- Brown, D. (2006). Pierre Bourdieu's "Masculine Domination" thesis and the gendered body in sport and physical culture. *Sociology of Sport Journal*, 23(2), 162-188.
- Bruun, D. M., Bjerre, E., Krusturup, P., Brasso, K., Johansen, C., Rørth, M., & Midtgaard, J. (2014). Community-based recreational football: a novel approach to promote physical activity and quality of life in prostate cancer survivors. *International journal of environmental research and public health*, 11(6), 5567-5585.
- Casey, M., Harvey, J., Eime, R., & Payne, W. (2011). The test-retest reliability of a health promotion assessment tool in sport. *Annals of Leisure Research*, 14(4), 304-324. doi:10.1080/11745398.2011.639340
- Collins, M. (2004). Sport, physical activity and social exclusion. *Journal of Sports Sciences*, 22(8), 727-740. doi:10.1080/02640410410001712430
- Corti, B., J. Holman, C. D. a., Donovan, R. J., Frizzell, S. K., & Carroll, A. M. (1995). Using sponsorship to create healthy environments for sport, racing and arts venues in Western Australia. *Health promotion international*, 10(3), 185-197.
- De Leeuw, E. (2009). Evidence for Healthy Cities: reflections on practice, method and theory. *Health Promot Int*, 24(suppl 1), i19-i36.
- Donaldson, A., & Finch, C. F. (2012). Sport as a setting for promoting health. *British Journal of Sports Medicine*, 46(1), 4-5. doi:10.1136/bjsports-2011-090743
- Dooris, M. (2004). Joining up settings for health: a valuable investment for strategic partnerships? *Critical Public Health*, 14(1), 49-61.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *Int J Behav Nutr Phys Act*, 10(98), 16.
- Elmose-Østerlund, K., Ibsen, B., Nagel, S., & Scheerder, J. (2017). *Social integration and volunteering in sports clubs in Europe. Combining knowledge on sports club policies, sports clubs and members in ten European countries*. Paper presented at the The values of sport. Between tradition and (post) modernity (Abstract book of the 14th EASS Conference).
- Flatz, A., Pfeifer, N., Radtke, T., Kriemler, S., Klerings, I., Wolfenden, L., & von Elm, E. (2016). Interventions implemented through sporting organisations for promoting healthy behaviour or improving health outcomes. *The Cochrane Library*.
- Geidne, S. (2012). *The Non-Governmental Organization as a Health promoting Setting: Examples from Alcohol Prevention Projects conducted in the Context of National Support to NGOs*. (Doctoral Dissertation), Örebro University,
- Geidne, S., & Jerlinder, K. (2016). How sports clubs include children and adolescents with disabilities in their activities. A systematic search of peer-reviewed articles. *Sport Science Review*, 25(1-2), 29-52.
- Geidne, S., Quennerstedt, M., & Eriksson, C. (2013a). The implementation process of alcohol policies in eight Swedish football clubs. *Health Education*, 113(3), 196-215. doi:10.1108/09654281311309837

- Geidne, S., Quennerstedt, M., & Eriksson, C. (2013b). The youth sports club as a health-promoting setting: An integrative review of research. *Scandinavian Journal of Public Health*, 41(3), 269-283. doi:10.1177/1403494812473204
- Glanz, K., & Bishop, D. B. (2010). The role of behavioral science theory in development and implementation of public health interventions. *Annual Review of Public Health*, 31, 399-418.
- Golden, S. D., & Earp, J. A. L. (2012). Social ecological approaches to individuals and their contexts: twenty years of health education & behavior health promotion interventions. *Health Education & Behavior*, 39(3), 364-372.
- Grant, M. J., & Booth, A. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal*, 26(2), 91-108.
- Green, L. W., & Kreuter, M. W. (2005). Health program planning: An educational and ecological approach.
- Hawe, P., & Potvin, L. (2009). What is population health intervention research? *Can J Public Health*, 100(1), 8-14.
- Holman, C., Donovan, R. J., Corti, B., Jalleh, G., Frizzell, S. K., & Carroll, A. M. (1997). Banning tobacco sponsorship: replacing tobacco with health messages and creating health-promoting environments. *Tobacco control*, 6(2), 115-121.
- Jackson, S. F., Perkins, F., Khandor, E., Cordwell, L., Hamann, S., & Buasai, S. (2006). Integrated health promotion strategies: a contribution to tackling current and future health challenges. *Health promotion international*, 21(suppl_1), 75-83. doi:10.1093/heapro/dal054
- Johnson, A., & Baum, F. (2001). Health promoting hospitals: a typology of different organizational approaches to health promotion. *Health promotion international*, 16(3), 281-287.
- Kokko, S. (2014a). Guidelines for Youth Sports Clubs to Develop, Implement, and Assess Health Promotion Within Its Activities. *Health Promotion Practice*, 15(3), 373-382. doi:10.1177/1524839913513900
- Kokko, S. (2014b). Sports clubs as settings for health promotion: Fundamentals and an overview to research. *Scandinavian Journal of Public Health*, 42(15 suppl), 60-65. doi:10.1177/1403494814545105
- Kokko, S., Donaldson, A., Geidne, S., Seghers, J., Scheerder, J., Meganck, J., . . . Kannas, L. (2016). Piecing the puzzle together: case studies of international research in health-promoting sports clubs. *Global Health Promotion*, 23(1 Suppl), 75.
- Kokko, S., Green, L. W., & Kannas, L. (2014). A review of settings-based health promotion with applications to sports clubs. *Health promotion international*, 29(3), 494.
- Kokko, S., Kannas, L., Villberg, J., & Ormshaw, M. (2011). Health promotion guidance activity of youth sports clubs. *Health Education*, 111(6), 452-463. doi:10.1108/09654281111180454
- Lane, A., Murphy, N., Donohoe, A., & Regan, C. (2016). Health promotion orientation of GAA sports clubs in Ireland. *Sport in Society*, 1-9. doi:10.1080/17430437.2016.1173920
- Liddle, S. K., Deane, F. P., & Vella, S. A. (2017). Addressing mental health through sport: a review of sporting organizations' websites. *Early Intervention in Psychiatry*, 11(2), 93-103.
- Lorenc, T., Petticrew, M., Welch, V., & Tugwell, P. (2013). What types of interventions generate inequalities? Evidence from systematic reviews. *J Epidemiol Community Health*, 67(2), 190-193.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, P. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS medicine*, 6(7), e1000097.
- Moore, M. J., & Werch, C. E. (2005). Sport and physical activity participation and substance use among adolescents. *Journal of Adolescent Health*, 36(6), 486-493.
- Musselman, J. R., & Rutledge, P. C. (2010). The incongruous alcohol-activity association: Physical activity and alcohol consumption in college students. *Psychology of Sport and Exercise*, 11(6), 609-618.
- Noblet, A. (2003). Building health promoting work settings: identifying the relationship between work characteristics and occupational stress in Australia. *Health promotion international*, 18(4), 351-359.

- Nutbeam, D. (1998). Health promotion glossary1. *Health promotion international*, 13(4).
- O'Donovan, G., Blazeovich, A. J., Boreham, C., Cooper, A. R., Crank, H., Ekelund, U., . . . Gill, J. M. (2010). The ABC of Physical Activity for Health: a consensus statement from the British Association of Sport and Exercise Sciences. *Journal of Sports Sciences*, 28(6), 573-591.
- Poland, B. D., Green, L. W., & Rootman, I. (1999). *Settings for health promotion: linking theory and practice*: Sage Publications.
- Priest, N., Armstrong, R., Doyle, J., & Waters, E. (2008a). Interventions implemented through sporting organisations for increasing participation in sport. *Cochrane Database of Systematic Reviews*, 3.
- Priest, N., Armstrong, R., Doyle, J., & Waters, E. (2008b). Policy interventions implemented through sporting organisations for promoting healthy behaviour change. *Cochrane Database Syst Rev*, 3.
- Rees, R., Kavanagh, J., Harden, A., Shepherd, J., Brunton, G., Oliver, S., & Oakley, A. (2006). Young people and physical activity: a systematic review matching their views to effective interventions. *Health Education Research*, 21(6), 806-825.
- Rhodes, R. E., Janssen, I., Bredin, S. S., Warburton, D. E., & Bauman, A. (2017). Physical activity: Health impact, prevalence, correlates and interventions. *Psychology & Health*, 1-34.
- Richard, L., Gauvin, L., & Raine, K. (2011). Ecological models revisited: their uses and evolution in health promotion over two decades. *Annual Review of Public Health*, 32, 307-326.
- Robertson, S. (2003). 'If I let a goal in, I'll get beat up': contradictions in masculinity, sport and health. *Health Education Research*, 18(6), 706-716.
- Van Hove, A., Sarrazin, P., Heuzé, J.-P., & Kokko, S. (2015). Coaches' perceptions of French sports clubs: Health-promotion activities, aims and coach motivation. *Health Education Journal*, 74(2), 231-243. doi:10.1177/0017896914531510
- Warburton, D. E., Nicol, C. W., & Bredin, S. S. (2006). Health benefits of physical activity: the evidence. *Canadian medical association journal*, 174(6), 801-809.
- Whitelaw, S., Baxendale, A., Bryce, C., MacHardy, L., Young, I., & Witney, E. (2001). 'Settings' based health promotion: a review. *Health promotion international*, 16(4), 339-353.
- WHO. (1986). *Ottawa Charter for Health promotion*.

Figures and tables

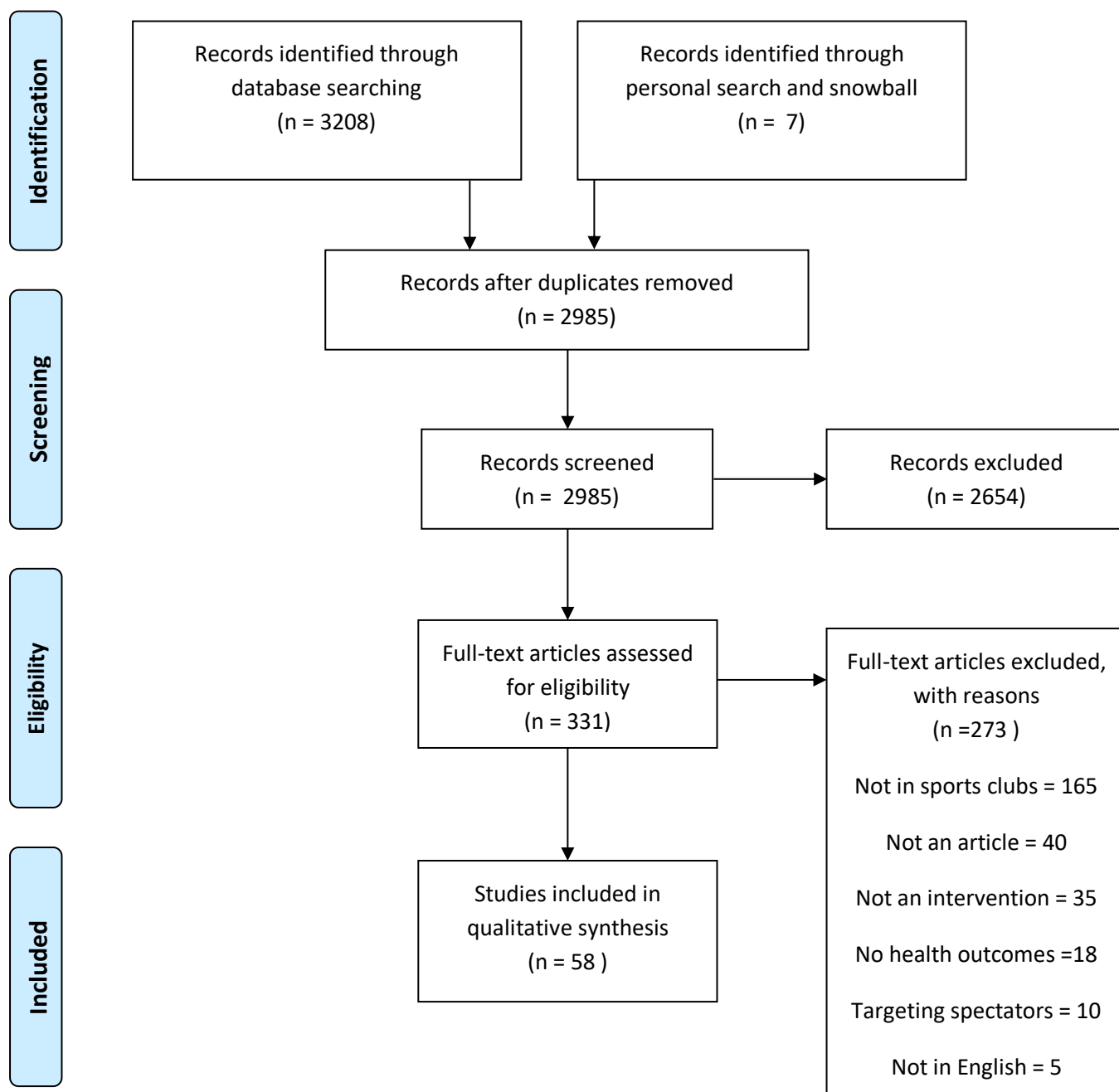


Figure 1: PRISMA diagram for study selection

- 1) Determine sport club previous experience in HP, organizational readiness, rationale and club sense of endorsement on engaging in HP in your club
- 2) Turn health promotion aims into a written form, with positive messages, adapted to sport language, culture and HP representation of club, taking social inequalities into account
- 3) Consider strategies based on the socio-ecological model and enhance sports clubs sense of belonging to define the most relevant HP aims
- 4) Consider financial (subsidiarity, sponsorship), human (volunteer time, staff turnover) and capacity building resources to invest in the health promotion development work
- 5) Designate a certain person with time (ex. role model and experts) to lead the development process
- 6) Use a bottom-up approach in HP interventions, applied at the three layers (micro, meso, macro), based on a recognition and reward system, as well as trust and shared interest between all participants
- 7) Collaborate with other agencies (clubs, health agencies and practitioners), by building a common culture (trust, recognition, shared time) and a process for collaboration (clear roles, shared experiences, contract specification, evaluation of results, power balance between partners)
- 8) Regularly evaluate the cost, the time accessibility and the enjoyment in regards to feasibility of health promotion aims
- 9) Create a clear implementation plan (for routine and event organization), including target population and funding mechanisms, establishing core objectives, infrastructure, coordination and key processes while taking sustainability issues into account
- 10) Base internal communication on a single, clear, explicit and inclusive message, visible to the community and partners, enhancing sports clubs sense of ownership
- 11) Motivate coaches regarding HP implementation, by fostering interpersonal relationships (humor, support, encouragement), autonomy, sense of ownership, and by taking coaches' capacity to handle situations, career opportunities and development into account
- 12) Educate coaches by varying support and strategies, using a participatory approach and focusing on the specificity of the public they train
- 13) Monitor health promotion activities in daily practice using a small win philosophy and evaluate effects not only in the short term
- 14) Integrate practice evaluation into HP policies, to help refine future planning and policies

Figure 2: Reformulation of Kokko's (2014a) guidelines for health promotion in sports clubs

Table 1. Descriptive information about included studies.

DESCRIPTIVES	N	DESCRIPTIVES	N
Continent/Country		Target group	
<i>Oceania</i>	27	Sport participants	24
Australia	25	Specific publics	8
New Zealand	1	Women/girls	6
Tonga	1	Disabled/disease	5
<i>North America</i>	11	Children/youth	5
USA	5	Coaches and participants	2
Canada	5	Inactive groups	2
Haiti	1	Families	1
<i>Europe</i>	18	Coaches	1
England	6	Others	4
Belgium	3	TOTAL	58
Ireland	3		
Switzerland	1	Targeted health behaviour	
Denmark	1	Alcohol	10
Sweden	1	Physical activity or sport participation	9
The Netherlands	1	Psychosocial skills	6
<i>Africa</i>	1	Injury prevention	4
South Africa	1	Social inclusion	4
<i>Asia</i>	1	Nutrition and obesity	3
Israel	1	Smoking	2
TOTAL	58	Health promotion	7
		Multiple behaviours	8
Sport practiced		TOTAL	58
Soccer	14		
Rugby and regional variants (AFL, GAA)	11		
Multiple team sports	9		
Multiple sports	9		
Team sports	4		
Individual sports	4		
Multiple individual sports	1		
Sport not reported	8		
TOTAL	58		

Table 2. Intervention characteristics

Targeted levels	N	Number of levels targeted	N	Sports clubs layers targeted	N	Sports clubs layers targeted	N	Theories	N
Intrapersonal	29	1 level	39	Micro	30	1 layer	42	Settings-based	5
Interpersonal	19	2 levels	8	Meso	16	2 layers	11	Behaviour ecological	5
Institutional	23	3 levels	5	Macro	33	3 layers	5	Socio-ecological	5
Community	14	4 levels	4					Others	8
Policy	3	All levels	2					No theory	35