The ‘plus’ in sport-plus

A step toward social inclusion?

Karen Van der Veken

Submitted to the Faculty of Medicine and Health Sciences in fulfillment of the requirements for the degree of Doctor in Health Sciences

Ghent 2021

GHENT UNIVERSITY

Promoter: Prof. dr. Sara Willems

Copromoter: Prof. dr. Emelien Lauwerier

Niets bestaat dat niet iets anders aanraakt.

(Nothing exists that does not touch anything else)

— Jeroen Brouwers, *Bezonken rood (1981)*

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Preface

When I first visited a 'sport-plus organization' (i.e. an organization using sport as a tool to work on life-skills and personal or societal development), I met Arno[1]. One day he lost about everything that was making things worth wile in his life: his wife left with the kids, he lost his job and he found himself homeless. Psychological problems and addiction led to multiple long-term hospitalizations in psychiatry. These mental difficulties make it challenging for Arno to keep structure and respect time schedules. This is obviously a constraint for finding work, as it is for (re)constructing his social life. Nevertheless, every week he comes to the soccer training. He is the first to arrive, always on time. He says this club, his soccer team and all that came with it, has changed his life.

How could a soccer team (admittedly, a bit different than other soccer teams) create this life changing experience? Why did it work for Arno (and for Youssef), but not for Sofia or Adam[2]? What contributed most to the process of understanding how this sport-plus organization worked, was participating. For the first time ever, I, still traumatized by practicing sport in group from the time that I was little, extremely shy and incapable of catching a ball from a meter's distance, actually enjoyed playing soccer! Throughout this PhD, I gradually learnt how this was possible.

This dissertation is the product of three years of chaos. Studying the complex adaptive system called 'society', and more specifically what explains the flow in and out of that system, while being part of and struggling with that same system, it was a great challenge to be able to put some steps back in order to see the forest through the trees, and the trees through the forest.[3] I bet 'not seeing trees through the forest' is an underdiagnosed phenomenon among researchers. The methods used in this work are a good remedy for this.

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[1] Arno is a fictive name to keep the person anonymous; the life story is a real one though. I've met many Arno's in sport-plus activities.
[2] The same counts for all other names used in this work: they have all been anonymized.
[3] https://www.taaltelefoon.be/door-de-bomen-het-bos-niet-meer-zien-door-het-bos-de-bomen-niet-meer-zien: De geijkte uitdrukking is door de bomen het bos niet (meer) zien. De betekenis is 'door te veel op details (de bomen) te letten, het geheel (het bos) uit het oog verliezen'. Het omgekeerde, 'door het bos de bomen niet meer zien' is in principe alleen correct als ook de omgekeerde betekenis bedoeld is: 'door te veel naar het geheel te kijken, de details niet meer zien'. August 7, 2019

Like my co-promoter, I joined the CATCH research project (2016-2019), in which this dissertation is anchored, in 2017 only. So within two months' time, we were ought to familiarize ourselves with a very extensive qualitative data collection, develop a theory and design an action research building on that theory. We rapidly needed to "CATCH" up! Unable to swim crawl, I used an ad hoc survival technique to reach the shore: with substantial unease, I left the content – two years of tremendously interesting qualitative data and an abundant pile of peer-reviewed articles on the matter, carefully gathered and processed by our colleagues in the project's first phase – aside for several months in order to focus on methods for studying complex social issues. I wondered: apart from the central research question, defined in the CATCH research proposal, what did we actually want to know? Moreover, what could we possibly add to the existing?

To me this project was the Atlantic Ocean on days of hazy weather; nothing like the 22-km long lake where I spent all my summers since birth, with water so shallow that the soil is visible at all times. The more I read about the subject, the more I felt all was said, all was written. Regularly tempted to sue an author for having published (decades earlier) what I thought had only just sprouted from my brain (be it in far less academic language), I was constantly confronted with the fact that what I had thought to be a tiny opening in the window of innovation, was not nearly an original point of view nor an extraordinary association but just a simple and logic path of evidence, that so many others had gone before. Many times, I recalled my promoter's question during the recruitment interview for the PhD scholarship: "*Why would you want to do a PhD?*" And my prompt reply: *"Oh, I don't want to do a PhD. I just think this is an interesting and relevant project."* I remember my promoter frowning: *"But you are aware that this is a PhD scholarship? How do you feel about making a PhD?" "I imagine it to be a hugely frustrating process"*.

The brief moment of silence following my reply was interrupted by the laughter of a postdoctoral colleague attending the interview: '*That's true for sure!*' Still, back then, I had no clue of what I was saying. I needed many more grey hairs for that. (And the voice of a sixty-year old heavy smoker: "*Toute ma jeunesse, j'ai voulu dire 'je sais'. Seulement, plus je cherchais, et puis moins j' savais ... Je suis encore à ma fenêtre, je regarde, et j'm'interroge. Maintenant je sais; je sais qu'on ne sait jamais. La vie, l'amour, l'argent, les amis et les roses.*

On ne sait jamais le bruit ni la couleur des choses. C'est tout c'que j'sais! Mais ça, j'le sais...". Jean Gabin, 1974)[4]

Now I know… that one question only leads to hundreds of others, that the reflections are endless, that writing is always just a beginning, and that this study is and cannot be finished. Every phrase is a tentative attempt to describe a reality that I cannot fully grasp. But at least, I'm aware of that. Nothing as strong as the force of experience-based learning…

May that, dearest reader, be a quintessential conclusion of this dissertation. Thus feel free to pause your reading regularly and drag your colleagues, your children, and your grandmother from behind their desks and kitchen table to play outside instead – careful with grandma, though, no hip fractures on our watch!

Karen Van der Veken

[4] 'Maintenant je sais' is a French adaption (by Jean-Loup Dabadie) of 'But Now I Know', written by Harry Philip Green in 1973, and sung (merely spoken) by Gabin.

Introduction

For every fact there is an infinity of hypotheses. The more you look the more you see.

— Robert M. Pirsig, *Zen and the Art of Motorcycle Maintenance: An Inquiry Into Values (1974)*

A growing group of young people in our society our facing social exclusion in multiple (life) domains, such as education, employment, health, social participation and community integration. Moreover, policy-led interventions aimed at promoting social inclusion are faced with multiple challenges such as short term project funding, a lack of tools to monitor, evaluate, and prove effectiveness, difficulties in reaching the most vulnerable groups, and limited understanding of the target group.

Sport has been perceived as a potential rich context to reach *hard-to-reach* people at-risk of social exclusion, for it interests and unites many adolescents. Insight in how and why sport-plus activities function may contribute to the quest for effective and well-tailored health-promoting interventions. The aim of this research is to find out how sport can be used as a tool for making a positive change in the lives of individuals, and more specifically how it can promote the health and wellbeing of those in socially vulnerable situations. What is needed to turn sport, traditionally rather exclusionary in nature, into an effective tool for social inclusion and improved health? How come outcomes differ from one sport-plus initiative to another, and from one participant to the other?

This work is anchored in the CATCH research project. CATCH, short for *Community Sports for AT-risk youth: innovating strategies for promoting personal development, health and social CoHesion*, is a four-years lasting (2016-2019) action research project (SBO or *Strategisch Basisonderzoek*) in Flanders, Belgium, and funded by Flanders Innovation and Entrepreneurship. The CATCH project was developed because of the limited insight in the circumstances in which community sport programs can be successful in improving personal development, health and social cohesion. CATCH aimed at providing crucial new insights that could improve programs and policies aiming at social inclusion. Both in design and implementation of its interventions, CATCH is a transdisciplinary project, gathering researchers from different fields, as well as policy makers and practitioners. CATCH aims at identifying the mechanisms responsible for a positive impact of sport-plus initiatives on social inclusion of socially vulnerable youth, a broad outcome studied through three subcomponents, being personal development (mainly studied by the department Sport & Society of the *Vrije Universiteit Brussel*), social cohesion (focus of the department Social Work and Social Pedagogy of *Ghent University*) and health (subject of this PhD research within the department of Public Health and Primary Care of *Ghent University*).

This PhD research aims at identifying the underlying mechanisms of community sport that may promote health in socially vulnerable populations, and the necessary context factors for these mechanisms to emerge. At the end of the first phase of the CATCH project (2016-2017), a theory was developed on how, why and in which circumstances community sport may function as a health-promoting lever. In the second phase (2018-2019), this theory was tested in two contexts, of which one interventional and one non-interventional. As such, the theory developed as an answer to the above research questions, became subject to further refinement and enrichment in consequent studies.

The first chapter of this dissertation (Background) elaborates on the concepts of social inclusion, health and how both are linked, and provides a brief overview of the history of sport-plus, the terminology used within this field, and current challenges. The following chapter (Methods) elucidates the research plan, explains the main methods used and provides an overview of the data collected for the studies in this work. The results section of this dissertation counts four studies, each of which is presented in a separate chapter in the form of peer-reviewed articles, published or submitted for publication. The last chapter of this work (Discussion) holds a critical appraisal of the findings of these studies, methodologic reflections including study limitations and future research opportunities, and recommendations for practice and policy of sport-plus.

Background

Application of 'science' means application in, not application to. Application in something signifies a more extensive interaction of natural events with one another, an elimination of distance and obstacles; provision of opportunities for interactions that reveal potentialities previously hidden and that bring into existence new histories with new initiations and endings. Engineering, medicine, social arts realize relationships that were unrealized in actual existence. Surely in their new context the latter are understood or known as they are not in isolation.

— John Dewey, *Experience and Nature (1923)*

The background chapter counts two main sections. The first aims at setting the scene with regards to the concepts of health, social vulnerability and inclusion. It discusses visions and definitions, and looks into how health relates to social inclusion. It also includes a brief exploration of the potential of health-promoting interventions targeting those who are tightrope walking in the margins of mainstream community life. The second section starts off with a general overview of possible benefits of sport practice, before to focus on the use of sport as a mean for realizing other objectives of growth, the core topic of this dissertation.

Social inclusion and health: messy and complex relationships

Visions on health

In 1948, the World Health Organization defined health as "a state of complete physical, social and mental well-being and not merely the absence of disease or infirmity", adding to that definition a notion of 'equity', stating that "The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being, without distinction of race, religion, political beliefs or economic and social conditions." Nevertheless, a biomedical model ruled in medical practice until at least four decades later, when the American psychiatrist Engel wrote a game-changing paper on "the need for a new medical model" (Engel, 1977). In the biopsychosocial model that he proposed as an alternative, Engel emphasized the dominance of psychosocial causes of disease, a hypothesis recurrently confirmed through later studies (Murdock, 1980; Wade & Halligan, 2017).

The biopsychosocial model has been of great influence, among others used by WHO as a basis for its International Classification of Functioning, Disability and Health. It is not the only alternative, however, to the biomedical model. Two others, being the salutogenic and the socio-ecological model, have significantly influenced the studies in this dissertation. The salutogenic model of health (Antonovsky, 1996) increases the understanding of the relationship between stressors, coping and health. Focusing on factors supporting health and wellbeing, rather than on pathogenesis, this model is at the basis of 'positive youth development' approaches that regularly serve as rationale or as a theoretical framework for sport-plus programs – cf. studies and discussion. In positive youth development approaches, (all) children and youngsters (including those in socially difficult and vulnerable situations) are considered to be marked by considerable resiliency and the objective of these approaches

is to maximize this potential, "not only as an essential end in itself but also as a means of preempting any self-destructive or antisocial tendencies that can arise when there is a vacuum of positive activity" (Damon, 2004, p.17).

The socio-ecological model of health, on the other hand, urges to examine all factors affecting health such as social, cultural, political and environmental factors. An example of the latter is the Dahlgren & Whitehead 'rainbow' model of health determinants (Dahlgren & Whitehead, 1991), mapping the relationship between the individual, their environment and health. Individuals are placed at the center and surrounding them are the various layers of influences on health, e.g. individual lifestyle factors, peer and community influences, living and working conditions, social policies, political and other general conditions. Not only allows this framework exploring the relative influence of these determinants on various health outcomes and the interactions between these determinants, it may also inform us on where health promotion interventions should intervene in order to pursuit health equity.

'Health inequity' (or a social inequity in health) refers to the situation when mere variations or differences in health are systematic (showing a consistent pattern across the population), socially produced (not explainable by biological factors, hence evitable or modifiable) and unfair (Whitehead & Dahlgren, 2006a). Such health inequities are a reality in all societies, yet their magnitude and extent vary among countries (Whitehead & Dahlgren, 2006a). In European, industrialized countries, mortality and morbidity increase with declining social position. The lower one's place in the social hierarchy, the higher the risk of preventable diseases and of living and working circumstances (e.g. poor housing, job uncertainty…) that negatively influence mental and social wellbeing.

In a context of ever-longer life expectation, with chronic diseases and inequalities on the rise, the World Health Organization switched the attention from a pathology-focused approach to a more positive conceptualization of health as not just a state, but "a resource for everyday life, not the objective of living" (WHO, 1986). Emphasis has come to lie on social and personal resources, as well as physical capacities. Similarly, and in respect with a salutogenic health perspective, Huber et al. (2011) proposed to reformulate health as "the ability to adapt and self-manage in the face of social, physical, and emotional challenges". As such, Huber and colleagues link health to 'resilience', which can be defined as the ability to adapt to adversity,

or to cope with difficult or stressful circumstances (Luthar, Cicchetti, & Becker, 2000; Masten & Garmezy, 1985).

Resilience is also a useful concept in complexity theory (or 'systems thinking'), referring to "the capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development" (Sapienza & Masten, 2011). Considering resilience an asset of health shifts the focus from risk factors to protective factors. In Amartya Sen's language, we could consider resilience to be an 'opportunity' to achieve a certain 'functioning' (in casu, a satisfactory health status). Sen developed his Capability Approach as a critique to contemporary approaches to the evaluation of wellbeing, such as utilitarism and resourcism, focusing only on means, without considering what particular people can do with them. First, individuals can differ greatly in their abilities to convert the same resources into valuable 'beings' and 'doings' (called 'functionings' by Sen) (Lopez Barreda, Robertson-Preidler, & Bedregal Garcia, 2019; Sen, 1979). For example, possessing a (manual transmission) car to be able to go to work, does not serve a person with hemiplegia. Also, thus Sen (1979, 1989), the fact that people have valuable options ('capabilities' that Sen considers to be freedoms) is more significant than whether they do, or do not make use of them in order to actual achieve something ('functionings').

Applying Sen's (2002) Capability Approach to health, Jennifer Prah Ruger (2010) speaks of 'health capability' or the 'ability to be healthy', which she sees as an integration of health functioning and health agency. Hereby, 'health agency' is described as the individuals' ability to achieve health goals they value and act as agents of their own health, and 'health functioning' as the outcome of the action to maintain or improve health (Ruger, 2010).

The concept of health capability enables us to understand the conditions that facilitate and barriers that impede health and the ability to make health choices, and is in that sense a truly socio-ecological approach to health. While 'health agency' and 'resilience' show similarities and are both important assets in promoting health and wellbeing, their focus is slightly different, resilience rather being a reactive asset (protecting persons from damage caused by stressors) and health agency more a proactive asset.

Setting the scene: at-risk, socially vulnerable or socially excluded?

'Social exclusion' can be defined in various manners (Levitas, 1999, 2007). In most definitions, social exclusion is considered a process (or a range of processes) rather than a state. Moreover, most definitions emphasize the complexity of social exclusion, characterized by non-linear interactions with multiple factors at different levels (related to intrapersonal matters, peers and family, work environment, and so forth):

Social exclusion occurs where different factors combine to trap individuals and areas in a spiral of disadvantage. (DSS, 1999, p 23)

… a shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime environments, bad health and family breakdown. (SEU, 1997)

Levitas (2007) broadly defined social exclusion as a multilayered process characterized by "the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas". Such definition is in coherence with the socio-ecological model of health (Dahlgren & Whitehead, 1991), recognizing the importance of social, economic, political and other resources in determining one's health and wellbeing.

The term 'social exclusion' is closely linked, yet not synonymous, to the notions 'social vulnerability' and 'at-risk' population. The latter two differ in the sense that 'at-risk' population is defined by a higher measured exposure to a specific risk factor (i.e. all individuals in the concerned population show a higher risk exposure), while a 'vulnerable population' is a subgroup or subpopulation who is at higher risk of risks, because of shared social characteristics, as such commonly exposing the individuals within this subgroup to contextual conditions that distinguish them from the rest of the population (Frohlich & Potvin, 2008). Vulnerable populations, in other words, are: "social groups who have an increased relative risk or susceptibility to adverse health outcomes. This differential vulnerability or risk is evidenced by increased comparative morbidity, premature mortality, and diminished quality of life" (Flaskerud & Winslow, 1998). The distinction between exposure to single biologically based risk factors and sharing social characteristics is key here (Frohlich & Potvin, 2008).

Not all socially vulnerable are socially excluded, yet we can consider all socially excluded as socially vulnerable. The groups studied within this research consisted of individuals in situations of social vulnerability, with varying risk of being socially excluded.

"Medicine is a social science…"

German physician and founder of cellular pathology Rudolph Virchow (1821–1902) wrote history when stating that "medicine is a social science, and politics nothing but medicine at a larger scale". Anno 2020, rare are the doubts about the existence of health inequalities (Berry, Bloom, Foley & Palfrey, 2010; Graham, 2007; Leary, 1990; Marmot, 2005) and the importance of the social (as opposed to biological or genetic) causes of this gradient (e.g. access to healthcare and education, quality of work including higher job control, housing quality) (WHO, 2008).

Even among young people, significant health disparities exist (Berry et al., 2010; Holstein, Currie, Boyce et al., 2009). Young people from disadvantaged groups encounter more (chronic) health complaints (Berry et al., 2010; Holstein et al., 2009), mental health problems (Goldfeld & Hayes, 2012), and have increased adult morbidity and mortality rates (Chartier, Walker, & Naimark, 2010). Moreover, there is evidence of biological and social beginnings of life carrying important aspects of the child's potential for adult health, meaning that when exposed to health inequalities at young age, the risk of ill health only accumulates over time (Djousse, Driver, & Gaziano, 2009; Due, Krolner, Rasmussen, et al., 2011).

This phenomenon may be partly explained by biological programming yet social factors in childhood significantly influence the processes of biological development. The health of a child growing up in poverty, for example, will be affected through the greater likelihoods of poor nutrition and/or parental smoking, possibly causing a slower growth rate, more infections, and so forth (Wadsworth, 1997). Studies also suggest that psychosocial factors such as higher levels of stress and anxiety in the household in which the child grows up, and associated poor parental coping, generates or increases risky health behaviors during adolescence, such as smoking, poor dietary habits, physical inactivity (Mitchell, Pate, Beets, & Nader, 2013; Monshouwer et al., 2012). These behaviors are then likely to persist into adulthood (Due et al., 2011), as such possibly adding to morbidity and mortality prevalence in later age (Djousse et al., 2009).

Politics matter greatly in health disparities: they determine some of the root causes of health inequity (i.e. the unequal distribution of resources, access to services and to the power to alter the inequity), and the choices made with regards to health promotion and intervention are political ones. Some approaches are particularly interesting when reducing the health inequalities is the objective.

Vulnerable population approaches, for example, have been proposed in complement to population approaches (Rose, 1985), based upon the argument that population approaches risk to increase health gaps (Frohlich & Potvin, 2008). A vulnerable population approach addresses the conditions that put social groups at 'higher risks of risks' (Frohlich & Potvin, 2008). For example, accompanying those living in precarious conditions to find a job might decrease the risk of worsening drug addiction problems.

Also effective in tackling health disparities are interventions focusing on social determinants of health. They have proven to lead to much better results than interventions focusing on individual factors to improve health through behavioral change (Marmot et al., 2008). One example is given by a study on the effectiveness of healthy eating interventions in groups differing in socio-economic position (McGill et al., 2015). Its findings suggest that health-promoting interventions targeting individual behavior change lead to more social inequalities, while those targeting contextual factors of healthy nutrition (e.g. price and offer) are most effective in groups with lower SEP and are, as such, likely to reduce inequalities (McGill et al., 2015).

Moreover, health interventions targeting different layers of health determinants in the same time (e.g. life style factors, social and ecological determinants and policy is tackled in the same intervention for the same target group), are more effective in comparison to risk-factor interventions (Whitehead & Dahlgren, 2006b). Since health disparities at young age persist into adulthood, and in respect to a life course perspective, giving priority to public health interventions targeting children and adolescents may also be considered an intervention tackling health disparities (Frohlich & Potvin, 2008).

For all health interventions counts that some considerations need to be made in order to strengthen the interventions' efficacy. One of them is the fact that health-promoting interventions need to be tailored to the target group to be effective (Spencer et al., 2019).

Also, because context is a strong influential factor, it is recommended to develop setting-based interventions (Dooris, 2006; Dooris, Dowding, Thomson, & Wynne, 1998), in which the context is part of the intervention. Another consideration is about how to define health. Rather than starting from 'problems' that impair one's quality of life and are thus 'important and severe enough' to tackle in health promotion programs through a 'minimizing-the-risk approach', health-promoting interventions have showed to be more effective in socially vulnerable youth when promoting strengths, assets, and protective factors that facilitate healthy youth development (Pittman, Irby, Tolman, Yohalem, & Ferber, 2003; Resnick, 2005; Wilson et al., 2007).

One possible intervention that takes into account several of the above considerations (promoting strengths instead of focusing on pathology; tackling social determinants instead of only individual behavior; tailored to the circumstances in which the target group lives) is sport, something many adolescents may be interested in, also because a large variation in sport exists, and a choice appropriate to one's interests and capabilities can be made. Moreover, sport activities for youngsters in neighborhoods with low socio-economic status combine a vulnerable population, a life course and a setting-based approach, as such increasing the success of addressing social inequities in health (Elsborg et al., 2019).

Sport as an objective versus sport as a means

In the following paragraphs, sport is studied in two capacities: first as a standalone objective, coming with beneficial effects on health and wellbeing, and then as a tool for development, among which improved health. These capacities are separately discussed, for although they may have many effects in common, the underlying theory of change is different.

Improving health through sport and physical activity

WHO defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure (WHO Factsheet Physical Activity). The broad components of physical activity are occupational, transport, domestic, and leisure time, which consists of exercise, sport, and unstructured recreation (Khan, 2012). While most sports can be considered physical activity, not all physical activities count as sport. The European Sports Charter (2001) defines sport as: "All forms of physical activity which, through casual or organized participation, aim at expressing or improving physical fitness and mental well-

being, forming social relationships or obtaining results in competition at all levels." Participants of sport adhere to a common set of rules or expectations, and a defined goal exists. (Khan, 2012)

Although the association with improved condition and physical wellbeing remains the best known reason for increasing levels of participation in physical activity and sport, especially for children and young people (Vuori et al., 1995), numerous publications in the latest two decennia claim that sport may generate many more benefits (Eime, Young, Harvey, et al., 2013; Holt, Neely, Slater et al., 2017; Schulenkorf, Sherry, & Rowe, 2016). Besides individual benefits of sport participation, such as physical health advantages and a positive influence on participants' cognitive development and mental health, societal benefits of sport participation, such as crime reduction and a decrease in truancy have been reported (Bailey, 2005).

Despite a small number of detailed studies of these societal benefits of sport, evidence is limited, mainly because of a lack of systematic evaluation and deficient program planning (e.g. over-ambitious objectives, vague classifications of 'anti-social behaviors' or simplistic theorizing about the causes of the by the program targeted behavior) (Bailey, 2005; Robins, 1990). Similarly, research exploring the relationship between sport (or physical activity) and cognitive benefits or educational performance remains limited to inconclusive hypotheses, such as the idea that regular physical activity could enhance educational performance through increased blood flow to the brain and changing hormonal secretion generating mental alertness and self-esteem (Bailey, 2005; Etnier et al., 1997; Geron, 1996; Shephard, 1997).

Therefore, we limit the short overview of sport health benefits below to the individual level, being the physical, mental and social health consequences of regular physical activity.

Physical health benefits

A large body of literature shows that regular physical activity is associated with a longer and better quality of life and reduced risks of a variety of diseases, while inactivity is considered one of the most significant causes of death, disability and reduced quality of life in the Western world, among others through an increased risk of obesity and cardiovascular diseases (Macera, Hootman, & Sniezek, 2003; May et al., 2015; Sallis, Prochaska, & Taylor, 2000; Vuori et al., 1995; Warburton, Nicol, & Bredin, 2006).

Remarkable health disparities exist even among young people (Berry et al., 2010; Holstein et al., 2009) and regular physical activity will be most effective when practiced from a young age onward, both mitigating the causes of disease during childhood and reducing the risk of chronic diseases in later life (Bailey, 2005; Sallis & Owen, 1999). Physical activity, when leading to wellbeing, is an important protective factor (cf. resilience), limiting the adverse effects of stress (significantly contributing to disease) through neuroendocrine pathways (Brunner, 1997).

Mental and social health benefits

Mental health issues, ranging from low self-esteem, anxiety and depression to eating disorders, substance abuse and suicide, are among the most prevalent health issues in young populations (Sallis & Owen, 1999). In 2013-2014, nearly a quarter of the 11-, 13-, and 15-year-olds reported symptoms of nervousness, sleeping problems, and depressed feelings in a large-scale European survey (Inchley et al., 2016).

An increasing body of literature documents sport's potential to positively influence participant's wellbeing and resilience, manifested among others through reduced anxiety, better self-control, emotional self-efficacy, self-confidence, self-esteem and self-concept, more social competence and social benefits such as relationships and connectedness (Bailey, 2005; Eime et al., 2013; Lubans et al., 2016; Mutrie & Parfitt, 1998; Petitpas, Cornelius, Van Raalte, & Jones, 2005; Sallis & Owen, 1999) and this especially so in socially vulnerable groups (Abur, 2016; Bailey, 2005; Gallant, Sherry, & Nicholson, 2015; Parnes & Hashemi, 2007).

Because of the opportunities it provides for meeting with other people, practicing different social roles and particular social skills, e.g. tolerance, respect for others, cooperation, participation in sport contributes to processes of personality development (Gould & Carson, 2008; Svoboda, 1994).

Sport participation has also been related to social capital building (Marlier et al., 2015), yet this relation may be contested in the sense that sport participation is at times exclusionary in itself (cf. infra).

Sport as a means for realizing other objectives

Above we gave an overview of potential benefits of sporting, alone or in group, when sport is practiced 'for the sake of sport', and what this may mean for one's physical, mental and social wellbeing. This dissertation, however, is not about sport and physical activity as such, but looks into what sport can do for the social inclusion of adolescents in socially vulnerable situations, and more concretely how, in which circumstances and to what extent it may impact on their health and wellbeing.

What's in a name: sport with and without pluses

Often the term 'neighborhood sport' is used when actually referring to 'community sport', and vice versa. Those terms are not necessarily the same, however, finding an accurate definition for each of the terms, is not as easy as it may seem. 'Neighborhood sport' is literally 'sporting in the neighborhood'; it mainly refers to the fact that these sport activities are locally organized, and as such may lift at least one of the barriers to participate in sports, being the geographical barrier. The contents of the term is strongly linked to Flanders' social policy, and its evolution over the years. Gradually, there was more attention for the potential of 'neighborhood sport' to increase the participation in sports of vulnerable groups.

'Neighborhood sport' and 'community sport' are now interchangeably used terms, at least in Flanders, and refer to all kinds of local, neighborhood-oriented initiatives that aim to guarantee an optimal accessibility for socially vulnerable groups (cf. ISB website). Moreover, while 'neighborhood sport' rather is a typical Flemish term, the internationally used term 'community sport' does not refer to the same kind of activities in different countries and settings.

Community sport comes in all forms and colors; the diversity in organizational formats, policy frameworks, funding schemes and professional practices is significant (Haudenhuyse, Buelens, Debognies et al. 2018). Some commonalities exist though: most initiatives aim at lifting geographical, financial and social barriers to sport (Haudenhuyse et al., 2018; Theeboom, Haudenhuyse, & De Knop, 2010) and therefor use a flexible, adaptable, (semi-) informal, people-centered approach (Haudenhuyse et al., 2018; Schaillée, Haudenhuyse, & Bradt, 2019). Since sport is often laced with various forms of discrimination and social

exclusion (Collins, 2004; Spaaij, Magee, & Jeanes, 2014), community sport is an alternative for reaching groups that are not included in / attracted by mainstream sport provisions such as regular sport clubs (Schaillée et al., 2019). It mainly came as a response of local governments to the low sports participation rate of socially vulnerable groups as compared to more advantaged groups (Hylton & Totten, 2008; Marlier et al., 2014).

Another common characteristic of community sport initiatives is that most are about more than just sport participation. They try, in different degrees, to address the social, political and cultural dimensions of inequality (Hylton & Totten, 2008; Schaillée et al., 2019).

Sport trying to realize developmental goals is in international literature more commonly called 'Sport-for-Development' (SfD). Whilst there is no agreed SfD definition (Haudenhuyse et al., 2018), Lyras & Welty Peachey's (2011, p.311) definition is broad enough to be useful: "the use of sport to exert a positive influence on public health, the socialization of children, youth and adults, the social inclusion of the disadvantaged, the economic development of regions and states, and on fostering intercultural exchange and conflict resolution". Besides SfD, other terms are sometimes used: sport-plus, sport for social change, sport-for-health, and so forth.

UK scholar Fred Coalter differentiated between (pure) sport, sport-plus, and plus-sport programs / organizations (Coalter, 2007). In the first, evidently, sporting is the goal. In sport-plus organizations, sport is the core activity but it is used and adapted in various ways to achieve certain developmental goals, such as health education, the increase of social capital or capacity building. Coalter (2007) defines plus-sport organizations as those organizations using sport and its popularity as a cover, a 'fly-paper', to attract participants to programs of education and development. This is similar to what is called SfD in other research.

In practice, however, it is difficult to differentiate between sport-plus and plus-sport organizations or programs. In some practices the social and sportive aspects are equally important, and in one and the same practice, different participants may have very different interests (e.g. one only interested in winning, the other mainly coming for the company) (Smets, 2019). Categorizing sport organizations implies using ideal types (Coalter, 2007). Actually, what exists is a continuum of sport programs working more or less on (personal or societal) developmental goals and using sports to a more or less extent as a tool to realize these goals.

Similar to Coalter's differentiation of sport programs, sport scholars in Flanders (Buelens, Theeboom, Vertonghen, & De Martelaer, 2017) identified three community sport models: the participation model, the target group model and the integrality model.

In the 'participation model', active participation of the inhabitants of a local quarter is a goal in oneself. This model aims at getting more people from socially vulnerable groups to sport. It is about the 'development of sport' instead of the 'development through sport' (cf. Haudenhuyse et al., 2018) for an interesting discussion on the 'development of sport' and the 'development through sport', and how both are related). Characteristic for this model is the openness; everyone is welcome to participate. In the 'target group' model, sporting remains a goal, but is also a means to promote the general wellbeing (of the target group). In the 'integrality model', sport is the means used for reaching socially vulnerable groups in targeted neighborhoods (Buelens et al., 2017). Here, 'development through sport' is aimed for.

Since the main research question of this dissertation concerns the 'why' and 'how' sport programs can contribute to the health promotion of socially vulnerable groups, the studies in this work were focused on 'target group' and 'integrality' models.

In the different studies of this dissertation, both the terms sport-plus and Sport-for-Development (SfD) were used, depending on the studied case and how its practitioners defined the organization. Interchangeably, the term 'social-sportive practice' has been used to indicate any practice using sport as a tool for individual or societal development.

Concerning the terminology, two footnotes seem appropriate. Firstly, it is relevant to acknowledge that 'sport' in all of the above concepts is more than 'being a member of a sport club'. In the area of sport-for-development, 'sport' is generally understood to include physical activities that go beyond competitive sports. "Incorporated into the definition of 'sport' are all forms of physical activity that contribute to physical fitness, mental well-being and social interaction. These include: play; recreation; organized, casual or competitive sport; and indigenous sports or games." (United Nations Inter-agency Taskforce on Sport for Development and Peace)

In fact, the *'de-sportized nature*' of many activities within SfD has led some academics to argue that SfD should in fact be referred to as Play for Development (Sterchele, 2015). Secondly, while SfD programs often claim to address societal issues such as school dropout or

crime prevention (the 'D' in SfD standing for *Development of the community*), most programs merely aim at, or obtain as a result, the development of the individual (Coalter, 2015; Haudenhuyse et al., 2018).

Sport participation: challenging, necessary and not sufficient

As briefly explained above, social inclusion through sport is differing from social inclusion in sport. The latter is not the subject of this dissertation but it clearly interferes with why and how SfD may contribute to social inclusion.

First and foremost, sport, and the context in which it is practiced, is laced with mechanisms of exclusion. Those interested in participating in sport activities may encounter several barriers, and this is even more so for those with lower socio-economic status, as demonstrated by the rates for sport participation in different social groups (Coakley, 2015; Collins, 2004; Marlier et al., 2015). Financial barriers (e.g. membership fee, cost for sport wear, gear and materials, transportation cost), geographical barriers (e.g. too far, no public transport or no safe road) and sociocultural barriers (e.g. a dominant 'white and rich' culture leading to discrimination) have been reported (Marlier et al., 2015). Despite efforts of SfD programs to lift the existing barriers to sport, motivating socially vulnerable populations to engage in sport activities still remains challenging (Curran, Drust, Murphy, Pringle, & Richardson, 2016). There may, for example, remain opportunity costs for coming to the training, or social obstacles such as obligatory job counseling or welfare counseling meeting. Moreover, once in in the program, participants (in SfD traditionally those who are socially vulnerable and 'in need of education and/or at-risk of doing crime' (Kidd, 2008)) are often required to conform to existing structural socio-economic inequalities (Haudenhuyse et al., 2018).

To break through that pattern, SfD programs need to have a different set-up and program logic than 'sport programs'. SfD programs will generate the desired effects only in the right conditions, or, as several scholars have suggested, when adding supportive activities or using a specific methodology (Coalter, 2010; Schulenkorf et al., 2016). Sport participation is, in SfD programs, a necessary yet on itself not sufficient condition to realize the final objectives (Coalter, 2015). The studies in this dissertation explore the additional contextual elements required for sport to be successful as a tool for developmental objectives.

In Study 1, a theory-of-change is developed describing how, why, and in which circumstances SfD could improve the health of socially vulnerable groups. The theory was built using qualitative data gathered in various SfD programs in Flanders, Belgium. Study 2 describes the development, and later on the evaluation, of a pilot intervention that our study team designed and implemented to optimize the realization of SfD goals. In Study 3, one specific SfD organization serves as a comparative case for an evaluation and refinement of the theory developed in Study 1. At last, Study 4 provides an overall reflection on the SfD coaches, being of crucial importance, as program deliverers, to the viability and realization of SfD goals.

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Methods

Picture taken by Roie Galitz. Svalbard, Norway, 2018

For the studies in this dissertation, a realist perspective and methods of participatory action research were used. In the following methods chapter, the choice for these methods is explained in the light of the overall study design of this work. Further on, an overview is given of all data collected throughout the studies in this dissertation. Details about the data collection and analysis methods can be found respectively in Studies 1 to 4 (cf. infra).

A realist perspective

Cartabellotta & Tilson (2019) described an 'ecosystem of evidence', consisting of stakeholders who compete and collaborate among and between them, of social, cultural, economic, and/or political contexts and of scientific evidence, influenced by the rules, standards, and frameworks associated with evidence generation, synthesis, and translation. A research perspective fitting well with such complexity-oriented and context-focused approach is realist thinking.

Realist methods receive growing interest from social scientists, because its focus on necessary and sufficient conditions for social mechanisms to emerge provides a useful answer to the complexity inherent to social issues, e.g. inclusion and health (Byrne & Uprichard, 2012; Plsek & Greenhalgh, 2001).

The term 'mechanism', and the various adjectives preceding it, e.g. 'social', 'underlying', 'generative', 'explanatory', 'causal', 'intended', 'change', covers a range of uses and interpretations of the concept (Dalkin, Greenhalgh, Jones, Cunningham, & Lhussier, 2015; Hedström & Swedberg, 1998; Lacouture, Breton, Guichard, & Ridde, 2015; Pawson & Tilley, 2004). In its original meaning, it refers to Merton's broad and general definition of 'social mechanisms' as 'processes having designated effects for designated parts of the social structure' (Merton, 1968). Two other broad definitions of social mechanisms are: 'A mechanism is a process in a concrete system which is capable of bringing about or preventing some change in the system' (Bunge, 1979) and 'underlying entities, processes, or structures which operate in particular contexts to generate outcomes of interest' (Astbury & Leeuw, 2010).

Whichever definition is used, it is important to note that a mechanism is hidden but real; results in the interaction among human agents, intervention and structures; and is dynamic within an open system, hence the potential interaction with other mechanisms (Lacouture et

al., 2015). Social mechanisms are key elements in middle-range theories, i.e. theories providing an answer to 'the analytical problem of identifying the social mechanisms which produce a greater degree of order or less conflict than would obtain if these mechanisms were not called into play' (Merton, 1968).

Realist scientists try to look for the underlying social mechanisms responsible for change in a specific group or system. Two self-declared schools exist in realist thinking: critical realism (following Roy Bhaskar, Margaret Archer, etc.) and scientific realism (following Ray Pawson & Nick Tilley)[1]. Critical realists argue that social mechanisms are determined by social structures and interactions, rather than by agents' individual reasoning (Archer, Bhaskar, Collier, Lawson, & Norrie, 1998; Bhaskar, 2008). Scientific realists recognize the significant influence of context, including structural factors at macrolevel, yet their attention for the way in which people deal with resources provided by a program or an intervention (i.e. how they 'reason') is subject of discussion between both 'schools'. Nevertheless, the influence of hierarchy, social structures and interactions, as emphasized by critical realists, could be considered to be the core of the context that determines the agent's 'reasoning' as described in scientific realism. Instead of thinking about realism in terms of two different schools, we could consider it to be a single ontology (realism, or critical realism) that later scientists have tried to transform into a method, called scientific realism.

Realist thinking came as a critical reply to both positivist and constructivist thinking. With positivist thinking, realism has the belief in a physical and observable reality in common. However, unlike positivists but similar to constructivists, realist thinkers (at least those identifying them as following the school of Pawson & Tilley) believe that actors shape this reality, give meaning to it, act on, and react to it. Consequently, realist research aims to identify the underlying causal forces behind empirically observable patterns or changes in those patterns (Greenhalgh et al., 2017). This is done through '*retroduction*', which refers to the backward movement starting from observed patterns and looking below the surface for what might have produced them (Lewis-Beck, Bryman, & Liao, 2004; Sayer, 2000). In other words, realist thinking requires starting from the empirical outcome, tracing processes

[1] Those who used to be called 'scientific realists', i.e. those scientists following the writings of Pawson & Tilley, no longer wish to be called as such because the term is sometimes associated with a positivist perspective – cf. RAMESES mailing forum. However, for now, there is no other term yet to label the realist school of Pawon & Tilley.

backwards to study the question 'What works for whom, and under which circumstances?' (Pawson & Tilley, 2004).

According to scientific realism, the functional mechanisms of a program or an intervention are usually hidden, sensitive to variations in context and producing effects as a result of the combination of resources offered by the program and stakeholders' reasoning in response to those resources (Pawson & Tilley, 2004). This explains why stakeholders' reasoning is likely to differ from program to program and why successful interventions are not necessarily successful when developed in another context/setting with other resources and other actors.

Realist inquiry shows that the context in which an intervention is embedded (i.e., the specific interactions among actors, and between actors and social structures in those settings) is vitally important to understand the underlying mechanisms of the social problem and the potential of the answer formulated to it (Hawkins, 2016; Marchal, van Belle, van Olmen, Hoerée, & Kegels, 2012; Marchal et al., 2013). Context, and the interaction between context and mechanism, is key; it triggers the action and social practices. Therefore, thoroughly studying the context in all its facets is key to the success of a complex intervention. It implies that program and policymakers have information on the settings where desired social mechanisms will be triggered or inhibited, allowing them to design or adapt programs and policy accordingly.

In the overall study design of the CATCH research project, the importance of context is reflected in the realist manner in which the research questions are formulated and in the repeated testing of the initial program theory in other contexts.

Transdisciplinarity and Participatory Action Research

The CATCH research project being a Strategic Basic Research, it aims at serving both practitioners and policy makers through the provision of insights in and guidelines on effective health promotion interventions in hard-to-reach populations. If the aim is to make a change in a complex domain such as health promotion practice for socially vulnerable adolescents, a transdisciplinary approach seems a logical choice, or even an obvious one. Transdisciplinarity is "a reflexive, integrative, method-driven scientific principle aiming at the solution or transition of societal problems and concurrently of related scientific problems by differentiating and integrating knowledge from various scientific and societal bodies of

knowledge." (Lang et al., 2012). It may also refer to "different types of knowledge production for social change which are based not only on the integration of knowledge from different disciplines (interdisciplinary), but also on the inclusion of values, knowledge, know-how and expertise from non-academic sources" (Klein, 2010; Polk, 2014).

Bringing researchers, policy makers, practitioners and representatives from the target groups together around the same table to discuss, is necessary to stimulate a reflexive attitude in all stakeholders and encourage them to co-design a response to the problem as defined by these same stakeholders. As such, a transdisciplisuch approach may meet both the requirements posed by real-world problems and the goals of sustainability science as a transformational scientific field (Lang et al., 2012).

A method well aligned with such transdisciplinary approach is Participatory Action Research (PAR). Action research can be defined as "form of collective reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out" (Kemmis & McTaggart, 1988, p.6). As such, action research emphasizes the importance of practitioners' knowledge (as opposed to academics'), service-users' knowledge (as opposed to professionals') and community member's knowledge (as opposed to politicians') (Winter & Munn-Giddings, 2001)

Action research is research with emancipatory aims (Kemmis & McTaggart, 1988; Roose & De Bie, 2009). Through participation, however, political resources are redistributed, and in that sense, PAR is in itself a public health intervention (Frohlich & Potvin, 2010). It "involves the creation of a social space in which the expression of the various voices usually repressed by the dominant structures in society is sought and facilitated", thus Frohlich & Potvin (2010, p.379). This social space is referred to as the 'third space' in Study 4, and as 'structuration' by Giddens (1979) (cf. discussion). As a result, the relationship between research and action becomes an interchange rather than a unilateral relationship: research is a means for action, questioning existing approaches, and a help to the action, supplying cognitive data that may support the data; while the action is at its turn a means for research (Roose & De Bie, 2009). This requires the researcher to adopt an independent attitude (Roose & De Bie, 2009).

Overall research design

The CATCH (*Community Sports for AT-risk youth: innovating strategies for promoting personal development, health and social CoHesion*) research project aims at identifying the mechanisms responsible for a positive impact of sport-plus initiatives on social inclusion of socially vulnerable youth, a broad outcome studied through three subcomponents, being personal development, social cohesion and health. The latter component, further called CATCH-Health, is subject of the studies presented in this PhD dissertation.

The central research question of CATCH-Health is realist in nature: it aims to identify underlying mechanisms, and the circumstances in which these mechanisms emerge, or in realist terminology, 'are fired'. The theory developed as an answer to this research question, is subject to further refinement and enrichment in consequent research loops, which is characteristic for realist evaluation. CATCH-Health consists of two phases. In the first, theory was developed with regard to how and under which circumstances sport-plus may improve health, while in the second this theory was tested and refined through further studies – cf. Figure 1.

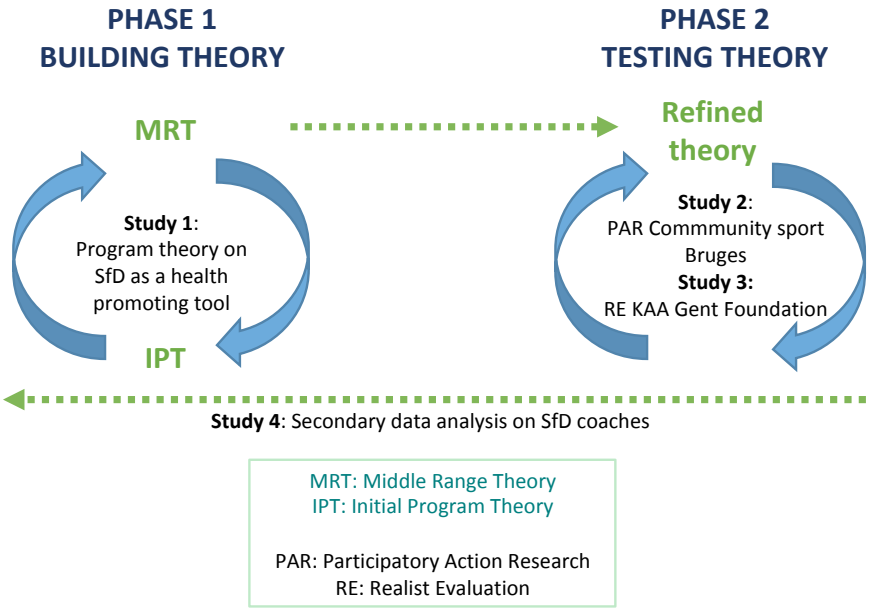

Figure 1. Overall research design CATCH-Health

Phase 1 (2016-2017) started off with extensive literature review and fieldwork, in order to gain understanding and identify potential mechanisms and determining context factors. This phase concurs with **Study 1**, a multiple case study delivering abundant and rich data that were analyzed as to respond to the following research questions:

- What are the mechanisms within community sport that may promote health and wellbeing?
- What are necessary conditions and what are barriers for these mechanisms to be declined and to be functional?

Data were analyzed progressively. From early analysis, an initial program theory (IPT) was derived and then tested in two focus group discussions with stakeholders of community sport practices. Testing the hypotheses in the IPT on empirical data and reflecting with stakeholders on possible explanations, sourcing from substantial, already existing theories, resulted in the development of a theory formulated at a mid-range level of abstraction, or a Middle-Range Theory (MRT): a theory still sufficiently concrete to test yet sufficiently generalizable to serve in different contexts (Merton, 1968; RAMESES II Project, 2017). This first middle-range theory, further referred to as MRT1, is the outcome of Study 1. Its development and contents are presented in the following article (cf. Study 1):

- Van der Veken, K., Lauwerier, E. & Willems, S. (2020). How community sport programs may improve the health of vulnerable population groups: a program theory. *International Journal of Equity in Health, 19*, (74). https://doi:10.1186/s12939-020-01177-5.

Phase 2 (2018-2019) served to test the theory developed in phase 1. Three studies were done to further refine and enrich MRT1. Insights from the first phase of CATCH-Health research, and the needs expressed by community sport practices, led us to develop an interventional component focused on what was found to be a determining factor for successful realization of sport-plus objectives: the SfD coach. The theory-building phase taught us that community sport coaches are not always, and certainly not in a uniform manner, prepared for working with socially vulnerable populations and for creating learning paths that would lead the target groups to goals that reached beyond sport participation. Therefore, in **Study 2,** based on the theory from phase 1 a training curriculum for SfD coaches was developed in close

collaboration with a community sport practice, and evaluated. The training aimed at enhancing SfD coaches' awareness and knowledge of the conditions in which the social value of sport-plus activities could be obtained and to provide some practical tips-and-tricks to create these conditions. Research questions for this interventional study were the following:

- What are potential learning objectives for community sport coaches enrolled in a training on positive coaching and group dynamics promoting social inclusion?
- What learning methods can be used and why are they believed to facilitate the achievement of those learning objectives?
- How to train SfD coaches if to ensure their viability as deliverers of health prevention messages to at-risk youth populations?
- Which elements external to the training and specific to SfD programs can lead to the successes or failures of such training?

Two peer-reviewed articles were published in relation to this interventional study, respectively covering the development of this training, and a realist-informed process evaluation that took place after completing the implementation of the training (cf. Study 2):

- Van der Veken, K., Willems, S., & Lauwerier, E. (2019). Health Promotion in Socially Vulnerable Youth: Sports as a Powerful Vehicle? *Health Promotion Practice*. https://doi.org/10.1177/1524839919874751
- Lauwerier, E., Van Poel, E., Van der Veken, K., Van Roy, K., & Willems, S. (2020). Evaluation of a program targeting sports coaches as deliverers of health-promoting messages to at-risk youth: Assessing feasibility using a realist-informed approach. *PloS one*, *15*(9), e0236812. https://doi.org/10.1371/journal.pone.0236812

Besides improving SfD practice through a translation of scientific findings into a concrete practical example, the second research phase also served as an opportunity to strengthen, contest, enrich or refine some of the program theory's hypotheses. Therefore, and in parallel with the interventional study, a non-interventional **Study 3** was implemented. It took the form of a realist evaluation of one specific middle-large sport-plus practice, already shaping the context of SfD in a way that its functional mechanisms (as identified in MRT1) are more likely to be fired, and thus serving as a comparative case. Study 3 aimed at answering the following research questions:

- Which conditions were put forward by the foundation in promoting social inclusion, and indirectly health and wellbeing, of socially vulnerable groups, and which of these conditions appear to be necessary elements for realizing the desired effects?
- What mechanisms were found to exist and were perceived of as essential working elements to have an impact within the context of this particular community sport organization?

With regards to this study, the following article has been published (cf. Study 3)

- Van der Veken, K., Lauwerier, E. & Willems, S. (2020). "To mean something to someone": sport-for-development as a lever for social inclusion. *International Journal of Equity in Health, 19*(11). https://doi:10.1186/s12939-019-1119-7

Research questions for **Study 4** emerged while analysing the data from the first phase and while collecting data in Studies 2 and 3. Increasingly aware of the central role of the coach in sport activities aiming at social objectives, we observed many differences in coaching, and variations in the outcomes of the project because of that. In this exploratory study, we reanalyzed the data previously collected throughout the CATCH research project, trying to find out what makes a coach in a social sportive practice successful in firing the mechanisms of Sport-for-Development. Using a realist lens, we explored the 'ideal' SfD coach profile, his roles and responsibilities, his required competencies and subsequent educational needs, and the structural conditions that need to be put in place for a SfD coach to realize the added value of sport activities using sport merely as a tool in order to reach 'higher' objectives. With regards to this last study, we submitted the following manuscript for publication (cf. Study 4):

- Van der Veken, K., Harris, K., Delheye, P., Lauwerier, E., Willems, S. (2020). Looking for boundary spanners: An exploratory study of critical experiences of coaches in sport-for-development programmes. Accepted (30th of December 2020) for publication in *Sport, Education and Society.*

Table 1 presents all data collected in CATCH-Health, spread over phase 1 (Study 1) and phase 2 (Studies 2 and 3). For Study 4, the data from study 2 and 3 were used. In all three studies, data were collected gradually (starting with the least 'intrusive' collection method, such as document analysis and observation, and then building further towards in-depth interviews) and iteratively (information from previous data collection was taken into

consideration and used to guide further data collection). Data sources included field notes from (participatory) observation, document analysis, meeting minutes, interviews and focus group discussions (FGD).

Table 1. Overview of data collection in CATCH-Health

Data sources	Period of data collection	Specifications
STUDY 1		
Observations	Feb-Nov 2016	109,5 hours, respectively:
Selected SfD site T1		14h
Selected SfD site T2		18,5h
Selected SfD site T3		34,5h
National tournaments		42,5h
Semi-structured interviews	May-Dec 2016	N=29
Coordinators, coaches, partners	May-Sept 2016	N=22, respectively n=7 (T1), n=11 (T2), n=3 (T3)
Participants	Nov-Dec 2016	N=7, respectively n=1 (T1), n=5 (T2), n=1 (T3)
Focus groups	Feb 2017	2 focus groups, respectively n=5 and n=7
STUDY 2		
Documents	March-Dec 2018	Intermediate reporting between staff (n=3) and researchers (n=2)
Observations	March-Dec 2018	10 sessions; SfD coaches and staff (n=5–8)
Semi-structured interviews	Feb-March 2018 Feb 2019	SfD coaches and staff (n=8) SfD coaches and staff (n=8)
Focus groups	Dec 2018	SfD staff, researchers, and stakeholders involved in local or national sport and recreational (community) activities, and local policy (n=8)
STUDY 3		
Documents	Jan-Dec 2018	Policy plan; subvention policy; year reports (2017, 2018), internal documents e.g. training curriculum of Team Buffalo

Observations	May-July 2018	57,5 h, respectively:
Geestige Buffalo's	Apr-July 2018	6*2h training; 2*4h tournament/ team activity
Gantoise Plantrekkers	May-July 2018	5*1,5h training; 1*24h tournament sleep-over
Buffalo League	May 2018	2*2h activity
Buffalo Dance Academy	May 2018	2*1h activity
Semi-structured interviews	Oct-Nov 2018	n=11 (2 female, 9 male), respectively:
Geestige Buffalo's		n=6 (1 female, 5 male)
Gantoise Plantrekkers		n=5 (1 female, 4 male)
Focus group	Nov 2018	n=8 (*2 participants who are also member of the steering group; 1 city sports council representative; 3 representatives from psychiatric care services; 2 sport+ coordinators)*

Data were analyzed differently in all studies. Details on data collection and analysis can be found in the chapter of the respective study.

Data were analyzed differently in all studies. Details on data collection and analysis can be found in the following chapters.

To end this method section, we note that while the 'A' in the CATCH research project's acronym stands for 'At-risk youth', the study population is better described as 'socially vulnerable' than as 'At-risk' (cf. terminology explained in Background chapter). Also, because of the diversity of the sport-plus projects studied by CATCH-Health, the study population for the four studies in this dissertation is more extended in age than what is supposed by the CATCH research project's title. Our study population was not limited to adolescents: in Studies 1 and 3, the majority of participants in the SfD programs included in the studies, were adults over 25 years, while the SfD coaches subject in the training trajectory of Study 2 were mainly delivering SfD activities to children and young adolescents. The key mechanisms and context factors described in the program theory developed in Study 1, appeared to be functional ingredients for SfD participants of all ages.

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Study 1. Building knowledge: Sport as a health-promoting tool

The real purpose of the scientific method is to make sure nature hasn't misled you into thinking you know something you actually don't know.

— Robert M. Pirsig, *Zen and the Art of Motorcycle Maintenance: An Inquiry Into Values (1974)*

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RESEARCH Open Access

How community sport programs may improve the health of vulnerable population groups: a program theory

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Abstract

Background: Groups at risk of exclusion from society appear to have a lower health status and more health-related problems. Prevention efforts in these groups are not always successful, and new ways have to be sought by which health messages can be delivered. Many agree on low-threshold sport activities, also called 'community sports', to be a powerful tool to target socially vulnerable groups. Until now, it has not been investigated how and when such sport initiatives may be able to impact health outcomes in socially vulnerable populations. This study aims at developing a program theory that clarifies the mechanisms and necessary conditions for sport programs to be effective in health promotion. Such a program theory may constitute a backbone for developing health promotion initiatives within a sport for development setting.

Methods: We developed a program theory using a realist research design. We build on an extensive data set consisting of the insights of key stakeholders and participants of various community sport organizations at the one hand, and on relevant theoretical frameworks at the other hand. Data were collected through participatory observations of soccer trainings and related group activities, interviews with key stakeholders and participants, document analysis and two focus groups with stakeholders from associated social partnership organizations.

Results: The health promoting effect of community sport on socially vulnerable groups seems not to result from an improved physical condition or sport-technical skills as such, but from processes of experiential learning among peers, incremental responsibility-taking and reflexivity. On the condition that participants feel safe, are stimulated to reflect and enabled to become actor of themselves and their situation, these processes are likely to lead to increased self-esteem, self-efficacy and motivation to set and pursue personal (health) goals. The key-influencing factor in these processes is the coach, who therefore needs to be adequately skilled in, for example, social vulnerability, motivational coaching and group dynamics.

Conclusions: The program theory developed in this study offers insights in the mechanisms proper to, and necessary conditions for community sport to be a lever for health promotion in socially vulnerable groups. Motivational processes at individual level and group connectivity are at the basis of personal health goal-setting. One of the necessary conditions is that these processes are guided by community sport coaches skilled in the meaning and impact of social exclusion, and capable of connecting with the target group.

Keywords: Theory-building, Community sport, Socially vulnerable, Health promotion

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Background

Social exclusion is probably the most accurately defined as "the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas" [1].

It has both a direct effect on the physical and mental health of the socially excluded [2–5], and many indirect effects. Since social exclusion touches to all aspects of people's lives, it complicates the implementation of preventive strategies for intervention. For example, socially excluded people do not participate as often or as thoroughly in contexts that are used as a setting for health promotion, such as work, school or mass-media campaigns [6, 7]. Furthermore, messages do not always reach the target group because of feelings of isolation, a lack of relatedness, an overall sense of hopelessness or frustrations with policy measures [8]. Socially vulnerable groups might also have other priorities or concerns than the subject of the message sent out to them. Even when the message has arrived and awareness is there, several obstacles remain for socially vulnerable individuals to (be able to) undertake action to improve one's quality of life [3, 7]. A working single mother, for example, may be well aware of the importance of physical activity, both for her children and for herself. Yet between awareness and action are many constraints, such as geographical (too far to go by foot), financial (too expensive to take public transport, to buy the required outfit…) and cultural ones (elite sport club, communication through social media, training 4 times a week required…). Moreover, fresh and healthy food may be a concurrent priority, as is time and attention to follow up on school progress of the kids, and so forth.

Since social exclusion is a complex and multidimensional process [1], promoting health and well-being among socially vulnerable groups is a complex social intervention requiring a multifaceted understanding and policy response, applying principles of proportionate universalism. Population-wide universal interventions (through schools, sport and leisure clubs, employment offices, etc.) should be completed with specific interventions targeting vulnerable population groups, varying in both the intensity of the intervention and the methods used so that they address the specific living conditions in which vulnerable groups live and work [7]. Sport, among others because its attractiveness among youth, may be a context of interest in which such multifocal response can start from, on the condition that it enables to reach the 'hard-to-reach'. Participation in sport is increasingly considered an effective instrument to enhance the ability of the most vulnerable in society to cope with adversity [9–13]. For children and adolescents, sport has shown to be related to reduced anxiety, higher self-efficacy, self-confidence and social benefits such as higher investment in meaningful relationships and feelings of connectedness [14]. However, since social exclusion also touches to the domain of leisure and sport, the classical sport club is not the most effective setting for using sport as a tool for health promotion [15]. Because of its potential to overcome these barriers to sport participation, 'community sport' has been studied from the late 1990s onwards [16–21]. Community sport activities are low threshold and financially accessible, and organised locally, in specific – often urban – neighbourhoods. The activities are not usually high level or competitive in nature. The above aspects make the community sport setting a fitted context for meeting like-minded people in a safe and accessible manner, and potentially a powerful tool to reach socially disadvantaged groups. Consequently, community sport has earned a place on the global, European and local social policy agendas [9–13], and is increasingly being integrated, particularly in the developing world or in divided societies, in community development strategies to contribute to reconciliation and peace, and to pursue the Millennium Development Goals (http://www.un.org/ millenniumgoals/). Sport-for-development, as it is called in this context, has been, among others, implemented to tackle discrimination and encourage respect; bridge social, cultural and ethnic divides; combat non-communicable diseases and HIV/AIDS; contribute to gender equality; and healing the psychological wounds of traumatized victims of natural or human-made disaster [22].

Although many successful community sport practices exist and their – not always systematic – effects on the well-being of socially excluded groups have been documented [16, 20, 23, 24], a generalizable program theory is still missing. The aim of this study is to develop a program theory on how, in which circumstances and to what extent community sport may improve socially vulnerable participants' health and well-being. We look for the key mechanisms through which community sport addresses individual's resilience and positively impacts health, and for determining context factors, some of which are necessary conditions, others mere facilitating. Such program theory informs stakeholders on what working elements should be triggered and what context needs to be in place in order for a health promotion program using sport as a lever to be successful. In times where many projects with social affinity lack long term budgetary visibility, an overview of factors facilitating a successful outcome of the project, is likely to serve both stakeholders and policy makers.

Methods

Study design

This study is part of the CATCH research project, a four-year (2016–2019) transdisciplinary research project designed to identify the underlying social mechanisms of

community sport that relate to personal development, health and social cohesion, and enabling conditions (context factors at micro, meso and macro level) for these social mechanisms to function. This paper focuses on the findings regarding health. The findings related to personal development and social cohesion are reported elsewhere [12, 25].

Our research question is embedded in a realist research design. Realist evaluation [26] aims to identify the hidden causal forces behind empirically observable patterns or changes in those patterns [27]. This is done through 'retroduction': going back from observed patterns and looking below the surface for what might have produced them [28, 29]. Hereby, realist studies focus on context and necessary conditions for social mechanisms to be generated, which makes it a useful approach for studying complex social issues such as health [30]. More concretely, we used steps from the classical grounded theory approach (GTA) to build theory from case studies in an overall realist inquiry study design [26, 31, 32]. We chose for this approach because of the appreciation of realism as a 'logic of inquiry that generates distinctive research strategies and designs, and then utilizes available research methods and techniques within these' [33]. In this study, we started from the empirical outcome (an important commonality between GTA and realist evaluation), tracing processes backwards to study the question 'what is it about community sport that works for socially vulnerable populations, why is that and under which circumstances?' [33]. The output is a program theory (PT), developed at a mid-level range of abstraction, i.e. a theory concrete enough to test yet generalizable to different contexts, therefore called a 'Middle-Range Theory' (MRT) [34]. This program theory clarifies why, how and in which circumstances community sport can promote health (respectively referring to mechanisms and influencing context factors of improved health outcomes).

Data collection

Data were collected iteratively. First, observations (January–April 2016) were conducted in three local football teams consisting of people in socially vulnerable situation, located in three Belgian cities of different sizes. One hundred and nine hours of participatory and non-participatory observation during trainings, leisure moments, team-building activities, staff meetings, and national and local tournaments provided insights into the organization of the teams, their partnerships, the participants they reach and the activities they offer. These insights were recorded in field notes immediately after each activity. Additionally, in-depth interviews were conducted (cf. Additional file 1) with 22 coordinators and social partners of different community sport initiatives, and with seven participants from the three teams that had been observed in the first round of data collection (May–November 2016). There were two selection criteria for the (stakeholder / participant) interviewees: 1) diversity, to ensure respondents of different age, gender, ethnic background, occupation and partner organization; and 2) the respondents' knowledge of the daily functioning of the team. To ensure those criteria were met, interviewees were chosen in collaboration with project coordinators. All interviews were semi-structured, using an interview guide based on the observations. The research team and experts discussed the guide and revised it after two test interviews in order to reveal more easily the key mechanisms of community sport and facilitating context factors. The interviewers started by asking about any health-related effects respondents experience through community sport, and then asked how respondents think these effects come about and which context factors are necessary for allowing these effects to occur. Where possible, interesting data from previous interviews were discussed and refined in later interviews. Finally, two focus groups ($N = 6$ and $N = 7$) were organized (February 2017) with coordinators, coaches and partners from various community sport organizations, in order to discuss and validate or adapt the initial program theory presented (cf. Additional file 2). The study team then identified and explored gaps, contradictions and uncertainties in the data from the interviews and observations. The focus group guide was refined and validated through meetings with international experts and within the research team. Interviews and focus groups were audio-recorded and transcribed verbatim.

Ethical approval for this multiple-case study was obtained from the Ethics Committee of the Ghent University Hospital (EC registration number: B670201628570).

Data analysis

Four analytical steps were taken after data collection: 1) open coding of data (identifying the sensitizing concepts); 2) axial coding of data (creating explanatory accounts); 3) selective coding of data (consolidating accounts); and 4) structuring consolidated accounts in a program theory.

Step 1: identifying sensitizing concepts

Data from observations and interview data were coded inductively in nodes in NVivo 11. We used the following criteria to select a core variable during the coding process: centrality, frequency, relevance, grab and variability [35]. This means that the core variables, further described as 'sensitizing concepts,' were of central concern for the participants in the study, appeared frequently and with a stable pattern in the data, related meaningfully to the concepts' different variables, were imaginary and explanatory, and could be discovered in

other substantive areas beyond the area from where the concepts emerged [36].

Step 2: creating explanatory accounts

Working 'backwards' from outcomes, the sensitizing concepts were labelled as an outcome (O), a context factor (C) or a mechanism (M) [37]. NVivo's coding queries were then used to find overlaps between outcomes and mechanism or context categories. These coding queries identified which fragments of interviews overlapped and which sensitizing concepts were coded to these fragments. Out of all overlapping fragments, recurring outcomes (O), mechanisms (M) and context (C) factors were identified, and reformulated (where possible) as '*if … then … because*'- statements as such obtaining 'explanatory accounts' [38]. 'If' is followed by a context factor, 'then' by an outcome on initial, intermediate and/or distal level and 'because' precedes what the study team could extract from the data as main reasoning on why and how the concerned outcome occurred in that specific context (mechanism). All explanatory accounts (n = 432) were listed in a table, together with the source of the statement.

Step 3: consolidating accounts

Two researchers (KV, EL) reviewed and discussed the inter-relationships and overlaps between explanatory accounts in order to decide which account to import directly into the consolidated explanatory accounts table, which account to merge with another and which account to reject. Following Pearson et al.'s strategy, this discussion was guided by the following questions: Is this account novel? If not: does this account challenge the explanations made in related accounts? Does this account add important refinements to the understanding of contexts, mechanisms, or outcomes made in related accounts? [38]. Whenever inconsistencies emerged in this process, a third reviewer (SW) was consulted. The explanatory accounts where consolidated in 16 dense accounts that were presented in the form of an initial program theory (cf. Additional file 2) to stakeholders in two focus groups for further discussion and potential consolidation. The whole of the consolidation process lasted for several months and was characterized by multiple feedback loops, emergence and non-linearity. In the end, four consolidated accounts in the form of CMO configurations remained (cf. Results).

Step 4: from consolidated accounts to program theory

In this step, the four CMO configurations were linked to one another, taking into account that the outcome of one CMO configuration might represent the necessary context to decline the central mechanism of another CMO configuration, and vice versa. These associations, as well as the supposed proximity and chronology in the relation among the CMO configurations, were presented in a visual or schematic diagram in the form of arrows, circles with common parts, etc. Three researchers familiar with the data discussed these schemes and figures with the social users (i.e. all community sport organizations within the network) of the CATCH project. While discussing on how the sensitizing concepts and consolidated accounts fitted together in a model, the process of cross-pollination in qualitative research became clear [39]: although the researchers tried to analyze and interpret the data grounded in their specific contexts, the theory that was developed from this analysis inevitably showed some resemblance to existing theories and social sciences concepts, e.g. the social cognitive theory and the self-determination theory [40, 41]. This influenced the process of naming the sensitizing concepts and key mechanisms, and of developing hypotheses on the relations between variables.

Results

First, the four consolidated accounts (CMO configurations) that resulted from the third analytical step (cf. Table 1) are described. Outcomes are split in initial outcomes (iO), intermediate outcomes (IO) and distant outcomes (DO). Second, it is explicated how these CMO configurations are linked together in an overall program theory (Fig. 1).

A safe haven to start from (CMO1)

If *community sport activities are predictable, structured and relatively unconditioned (C),* ***then*** *the participants experience a sense of safety and acceptance (iO) which motivates them to be engaged in community sport (IO) and have trust in peers and coaches (IO)* ***because*** *they perceive community sport as a setting in which they can ignore or even unload their emotional baggage, have fun, and be themselves among trustworthy peers (M).*

When participants experience predictability in daily life – i.e. they can count on things (e.g. a sport training) and on people to be as expected – it makes them more secure in their interactions and allows them to relax, as such creating contributing to what we have labeled "mental space" in the program theory: the space created in one's head when one is temporarily released from daily responsibilities and heavy emotional luggage. This liberated mental space can be used to be fully present in the moment and work on one's self-awareness. Community sport being '*relatively*' unconditioned means that social rules (boundaries) should exist to maintain a sense of safety for participants. A participant's behavior might not be accepted, though he or she will not be rejected as a person. An important facilitating factor is the presence of a coach who knows his or her participants, and is

Table 1 Examples of verbatim & facilitating context factors inspiring the CMO configurations

CMO configuration	Examples verbatim used for CMO configuration	Facilitating context factors
A safe haven to start from (CMO1)	*You notice that, once people feel at home and safe, there are some things that come up on which we, hopefully, can build further. (R16)* *Young people radicalize because they have nothing to do, because they're receptive for those… Give them a structure, give them a goal, give them something to be proud of (…) Make sure it stays accessible and that the offer is broad, including other leisure and cultural activities. It does not have to be about sport. (R3)* *Instead of being in class and not understanding half of things, feeling depressed (…). Some have not seen their dad or mom in 3 years. Well, they're preoccupied with all that. And sporting is then … to not have to be preoccupied with that for a while, and simultaneously, because of the accessibility of our activities, still feeling that there is space to talk about that. (FG1f)*	▪ Community sport coaches naming and personally greeting all participants ▪ Coaches inviting, though not obliging, participants to discuss problems and/or feelings ▪ Coaches practicing a signal and referral function and intervening when they sense a participant does not feel well or behaves inappropriately ▪ Coaches creating partnerships with other community (social or educational) workers so that learning is expanded outside the sports activities themselves.
Improved self-efficacy through motivational coaching (CMO2)	*Now, there is no more ranking (…). And we often win the 'fair play cup', so it shows that this motivates the players and that they join this idea. Yeah, it makes sure that everyone feels good within the team. When there is no focus on winning or if this is not the main goal, a player that is a little less skilled will also get the confidence. (R16)* *What we find really important is positive coaching, starting from people's strength. Those are people that fail very often, and if you as a coach, during a football training also start to talk about the things they don't do well, then it goes wrong. We name what they do well, even if that is a very little thing. (R3)*	▪ Explicitly appreciating the fact that participants who experience the most thresholds for physical activity, made it to training (as such motivating them to come again) ▪ Regularly pointing to positive behavior or reactions of participants that they themselves may be unaware of, and stimulating participants to compliment others, and themselves ▪ Appreciating effort over result and avoiding to compare participants with one another.
Sense of belonging and self-esteem through constructive group dynamics (CMO3)	*I feel useful and valued, yes. I feel useful because I can play in the [soccer team for socially vulnerable participants linked to a well-known First Division soccer team] and I feel valued, yes, the other players value me because I play there and because I sometimes help people (R28)* *(Asked about what it is about the homeless soccer team that 'works')* *I think… to belong. That there are no prerequisites, that you are always welcome. If you have never known that, it is a very strong thing to experience… that this is allowed and that you can be yourself. (R22)* *Now we use elements that focus on connecting: using games, running in group, starting and closing the training in group. (…). And in the beginning they asked for matches, but after some time that changed and then you really feel that it has a big impact on the group, by working differently with them. (R13)* *Because you have social contact again, you have more social contact actually. In the past I did not leave the house, and just sat in my room every day. And then I just started to take some steps. First […], then […], the football, then the youth movement. (R29)*	▪ Greeting (and naming) every participant before the start of an activity ▪ Actively introducing new participants and using the opportunity to enlarge all participants' acquaintance, e.g. through games that allow to get to know one another during the sport activity ▪ Integrating a group enhancing activity in every sports activity (in case of individual sport, this could be a warm-up in group) ▪ Ensuring an optimal role distribution in the group in the sense that all participants have a specific role to play in the activity and that roles are shifted (by the coach or an appointed team leader) from time to time ▪ Guarding constructive interaction (communication, feedback) with and between participants at all times ▪ Stimulating participants to establish a common goal and motivating them to pursue it ▪ Making use of role models to reinforce positive group feelings, e.g. by linking the team to a Premier League team ▪ Organizing activities outside of the sports trainings, e.g. tournaments (eating, travelling, warming up... together) or participation in social events
Mentoring participants in personal health goal-setting (CMO4)	*Our training is a location where people can meet, and where we can build a positive relation with people, to then work on several life domains on other moments. (…) We work very broadly: housing, administration, psyche, relations, addiction… But we work around these themes at the moment that people come up with something. They determine the agenda; we try not to push too much in one or another direction. (R14)* *We come off from the traditional welfare context*	▪ Presence of a (realistic, achievable) technical challenge in the training ▪ Existence of a clear group goal to which participants can link their personal goals (e.g. participating in a tournament) ▪ Adapted exercises for participants with less developed sportive skills (i.e. tailoring) without neglecting the more advanced players or the group dynamics ▪ Opportunities to take initiative and to

Table 1 Examples of verbatim & facilitating context factors inspiring the CMO configurations *(Continued)*

CMO configuration	Examples verbatim used for CMO configuration	Facilitating context factors
	and actually… create an environment in which we can work with the people without them… having the feeling that is forced upon them. They want it themselves. It happens upon their request. (R3)	grow in responsibility or engagement (e.g. making players who grew in confidence and in sport-technical skills responsible for the sport gear or an informal deputy trainer (positively coaching) his/her peers) ▪ Coaches providing participants with an individual training schedule that is feasible and matched to the condition level and preferences of the participants (individualization, tailoring) ▪ An adapted environment to make healthy choices more easy (e.g. replacing the candy machine by a healthier offer; foreseeing a source of drinking water and setting clear rules (e.g.: no smoking on the sports field) ▪ Coaches with knowledge of substance use and how to deal with them (who, e.g., support users without judging them, persuade participants to at least not be secretive about their use and maybe talk to them about it) ▪ Partnerships for improved exchange of information and more fluent transfer to social partners who can assistant participants in realizing their personal health goals

familiar with the social vulnerabilities experienced by the participants. Helpful as well (for connecting) is the coach having a similar socioeconomic background, as such being a role model for participants. When coach or peers have some life experiences in common, it may reduce feelings of loneliness, help put participants' problems into perspective or stimulate participants in finding the strength to improve their own situation. The main mechanisms identified are assurance, recognition and acceptance. Participants feel reassured by the fact that

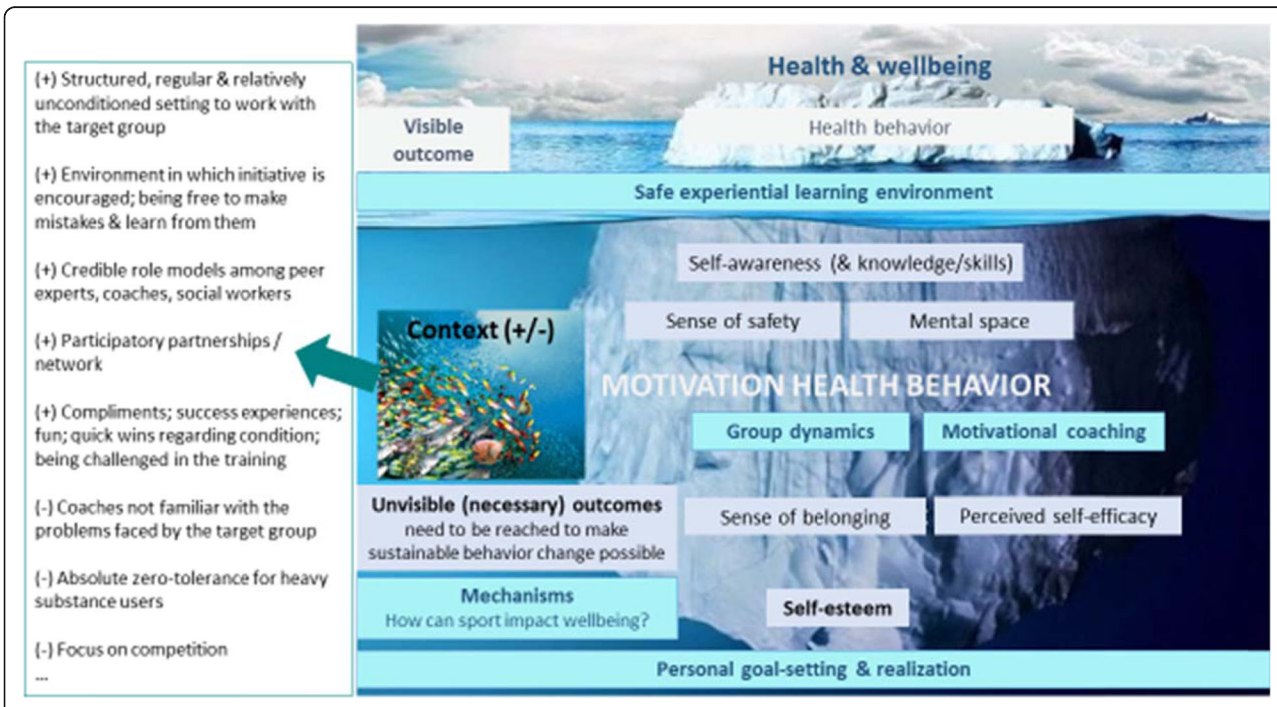

Fig. 1 Community sport as lever for health and well-being: a program theory

their coach has knowledge and understanding of participants' living environment; they feel recognized by their coach, peers and society; and they feel understood and accepted as a person, regardless of their sports skills or social difficulties.

Improved self-efficacy through motivational coaching (CMO 2)

If participants experience a safe space wherein they are stimulated to take initiative and to learn by experience (C), then they enhance their self-awareness (iO), perceived self-efficacy (IO), and self-esteem (IO), because they build up self-acceptance and appreciation through success experiences (M).

Participants being coached positively are reinforced in what they do well regarding their role in the team or regarding their sportive capacities, and therefore become increasingly aware of their own realizations and successes. Positively coached participants feel socially accepted and build up positive self-esteem. Emphasizing what participants do well allows them to identify themselves in a positive way (e.g. a player, team leader, responsible for the training gear…) as opposed to seeing themselves as, e.g., 'the homeless one', 'the one who got expelled from school' or 'the one with the mental problems'.

Sense of belonging and self-esteem through constructive group dynamics (CMO3)

If *community sport provide participants the opportunity to get to know one another and to connect (C),* ***then*** *participants perceive a sense of belonging (IO) and improved self-esteem (IO)* ***because*** *they feel recognized and acknowledged in their role and in themselves (M).*

Participants with a background of vulnerability feel part of a group, a bigger entity; they feel noticed and known ('*someone remembers your name*') by peers and coaches. As such, participants identify themselves more positively, and feel no longer marginalized. Facilitators are to train in the same outfit (wearing clean and professional sportswear does not only improve feelings of belonging but also one's self-esteem) and the team being linked to and recognized by a Premier League team (e.g. being invited on the field before a match, being on a picture with the Premier League players, wearing matching jerseys, having a trainer from the Premier League team) and pursuing a common goal. Factors that hinder a sense of belonging are: a focus on competition, possibly causing a drop-out of participants with poor physical or sport-technical skills, being often the most vulnerable persons of the target group.

Mentoring participants in personal health goal-setting (CMO 4)

If *a health and physical activity promoting climate exists in which desired behavior is visible and attractive (C), participants are provided opportunities to learn by experience, to become knowledgeable and self-aware and to increase self-efficacy (C),* ***then*** *participants become motivated to set (realizable) personal health goals (DO)* ***because*** *they know why and how to take actions towards self-care and healthy living, and are engaged to do so (M).*

Community sport coaches and peer experts serve as a role model regarding the link between healthy living, wellbeing and personal development facilitating social inclusion. They provide participants with access to information with regards to healthy behavior and how to make positive health choices. Especially peer experts, who have encountered similar challenges, may set a strong and inspiring example. Participants build up success experiences through reflection and are motivated to shift their physical and mental boundaries. Increases in self-efficacy with regard to physical activity may promote and sustain physical activity levels, possibly outside community sport.

Table 1 gives an overview of some examples of verbatim used for each of the CMO configurations, as well as examples of facilitating context factors for the concerned mechanism to be triggered.

Program theory

Figure 1 presents a visual depiction of a program theory describing key mechanisms and important context factors in generating positive outcomes on health and wellbeing of socially vulnerable persons participating in community sport.

In Fig. 1, the distal outcomes of community sport programs are presented as the tips of an iceberg. The mechanisms – the core of the iceberg – are not visible and have to be revealed through deep realist inquiry. In the water surrounding the iceberg is the context, both facilitating (+) and limiting (–) conditions influencing (molding, triggering, eroding) the underlying latent mechanisms. Three initial outcomes (iO) may be among the immediate results of some easily manifested mechanisms and may be a prerequisite for the intermediate outcomes: 1) a sense of safety within the environment and interpersonally while performing community sport; 2) self-awareness about one's own behavior and knowledge about exercise and health related behavior; and 3) mental space (i.e., (temporary) acceptance of oneself and one's situation and openness to a community sport environment). Three intermediate outcomes (IO) of community sport have the potential to impact motivation to perform and maintain healthy behavior: 1) a sense of belonging (i.e., feeling related to the group and coaches while performing

community sport; 2) a positive self-esteem (i.e., a sense of autonomy to be oneself, also while performing physical exercise and healthy behavior); 3) perceived self-efficacy (i.e., a sense of competence that one can perform and maintain physical exercise and undertake actions towards healthy behavior, and skills demonstrating the ability to be physically active and set health goals). Motivation to perform and maintain sports and healthy behavior is believed to be related to the actual behavior, and to better health and wellbeing on the long term (cf. discussion for existing theories supporting this association). There appears to be a relative sequencing to the mechanisms (M). An environment perceived by participants as a safe and trustworthy place (M1), where they feel accepted and can be one selves, is prior and generates the preconditions for keeping participants 'in', for motivating them to continue to sport and grow, and as such be exposed to positive coaching (M2) and constructive group dynamics (M3). Enabling personal health goal-setting (M4), on the other hand, appears to be one of the later mechanism to be triggered, since the context for enabling goal-setting needs to be sufficiently safe and mature: trusting relationships between coach and participant, and among participants; presence of role models; development of self-esteem and self-efficacy and constructive group dynamics are necessary conditions.

Discussion

The study results suggest that community sport activities may contribute to health via an increased sense of belonging, positive self-esteem and perceived self-efficacy of socially vulnerable groups through mechanisms of motivational coaching and constructive group dynamics, including role modelling among peers. Sustainable behavior change is preceded by a long and winding road of personal development, it is a long-term process requiring time-demanding interactions and certain necessary conditions to be in place, among which a safe and trustworthy environment, coaches familiar with the meaning and implications of social exclusion, and strong partnerships between community sport organizations and other stakeholders.

In this process, community sport works as a soil improver; it prepares the necessary conditions for the personal growth of socially vulnerable individuals. Community sport activities are usually organized in a safe and trustworthy climate in which participants can be themselves, are allowed to make mistakes, feel accepted for who they are, and are encouraged to take initiative and responsibility – all important conditions for building success experiences. A safe climate in community sport also means that participants know what is expected from them, that they are offered structure and predictability (routine), and that norms and values adhered to in the group are clear [42, 43]. In psychologically safe environments, people believe that they will not be punished or thought less of when making a mistake of when asking for help, which fosters the confidence to take the risks associated with learning (i.e. the risk of being seen as ignorant, incompetent or negative), thereby gaining from the associated benefits of learning [44]. Our study showed that psychological safety fosters the participants' ability to drop the – often heavy – emotional backpack and to be temporarily dismissed of responsibilities. This brings the necessary tranquility and what we have named in our study 'mental space' for participants of community sport to work on oneself, especially when experiencing the organized activities as fun and unconditioned. Several other studies confirm the importance of psychologically safe spaces in community sport [45, 46].

Another finding highlighted in our results is the importance of role models [47, 48], in community sport projects potentially embodied by coaches, professional sport players or peer experts. Especially the latter seems to be able to set a powerful example. In community sport activities, a peer expert is for example a long-term participant of the project who has gone a long and successful path of personal development and who gradually grew into a role as 'elder brother or sister' or who took on some responsibility within the project. Peer experts make caring for oneself and one's health visible, valued and attractive, which increases awareness of other participants on why and how to live healthy. In a meta-review studying the effects of interventions on self-efficacy, physical activity self-efficacy is reported to be significantly higher when vicarious experience (i.e. seeing a similar other perform the concerned behavior) is included in the intervention [49].

When conditions of psychological safety, fun and mental space are fulfilled, participants in our study feel motivated to keep on participating after a first experience, as such advantaging of the ability to form meaningful relations with other participants and coach(es) and to make sense of their free time [50, 51]. Motivational coaching and positive group dynamics then become key mechanisms, encouraging participants to build success experiences [19, 52]. Coaches (herein followed by participants copying the coaches' attitude) focus on what goes well, not on what goes wrong; the process is prior to the result. While 'social persuasion' [40] (i.e. encouragement and compliments) used as a stand-alone technique has been reported to have a weak impact on self-efficacy beliefs [49], our study results demonstrate that, in combination with other behavior change techniques, it may have an impact. Socially vulnerable persons seem to be profoundly touched by it, possibly because most of them are used to dealing with rejection, prejudgments and failure experiences [12, 20, 53]. Moreover, to have a role and a place in a group, to be part of a bigger whole and

to be connected with others, gives people the feeling they have the right to be [51]. It increases participants' self-confidence, perceived self-efficacy and sense of belonging, which appear in the study data as important building blocks for motivation to change one's behavior. These elements are also key in the self-determination theory [41] and in the social cognitive theory [54]. A person who is motivated to take his health in own hands and to set his or her own goals, is more likely to start off on a road to sustainable behavior change [55].

Although psychological theories such as the theory of planned behavior [55], the social cognitive theory [40] and the self-determination theory [41] have been useful in explaining the associations between the sensitizing concepts and the links between C, M and O in our program theory, when not integrated in a more contextualized approach, they fall short in the attention for pathways by which social environmental phenomena affect cognitive and biologic regulatory processes [56]. Moreover, the rather individualistically oriented behavior change models may unintentionally imply that individuals are personally responsible. Especially from a public health point of view, more attention is needed for the context in which behavior change takes place, or better, can take place [56, 57]. That is why, in complement to the theories referred to above, we used the Capability-Opportunity-Motivation-Behavior (COM-B) framework [57] to link different concepts in our program theory, and to give a proper place to context factors. 'Capability' (**C**OM-B), referring to the individual's psychological and physical capacity (including knowledge and skills) to engage in the concerned behavior, is represented in our PT by the initial (iO) and intermediate (IO) outcomes, mainly generated by the first three mechanisms (experiencing a safe climate; being positively coached; being part of constructive group dynamics). 'Motivation' (CO**M**-B) includes all brain processes that energize and direct behavior, inclusive of habitual processes, emotional responding and analytical decision-making. 'Opportunity' (C**O**M-B), representing the factors external to the individual that make the behavior possible or prompt it, equals the context in our PT. Both opportunity and capability may influence motivation, and all three of them (COM) can alter a behavior (B), just like behavior can alter capability, opportunity and motivation [57].

Strengths, challenges and future research opportunities

One of this study's main strengths, namely the program theory being partly grounded in data and not solely the result of creating hypotheses, has generated some challenges as well. Theory from case studies is complex theory. Creating rich and contextualized theories comes with the risk of drifting away from parsimony and clarity [58]. We tried to mitigate this challenge by several attempts to visualize the program theory (hence simplifying it, with the aim to enhance clarity on the links between the different components); by trying to bring a certain chronology in the program mechanisms; and by providing concrete examples (e.g. Table 1) linking data to concepts of the program theory. Also, our program theory reflects the idea that context elements at micro-level (safe environment, volunteering opportunities, role models…) indeed play a huge role as catalyzer for key mechanisms. However, the "upstream" social determinants of health, such as social disadvantage, risk exposure and social inequities play a fundamental role as well [59, 60]. Context elements at meso (organization, network, partnerships, local politics…) and macro level (policy, law and regulation…) may trigger or impede important context elements at micro level. Due to a multitude of data, we focused in the first research loop of our study on the mechanisms closest to the 'reasoning' of the target group [61]. However, more attention is needed for the cascade of context factors at structural (political and societal) level allowing (or impeding) these mechanisms. In further research loops, this can be altered. Lastly, in this first research phase ('research loop', as we prefer), more community sport project coordinators, coaches and social partners have been questioned then participants. This influences the identified mechanisms and contextual factors that are considered to be important. Since our program theory will be subject to further testing and refinement in following realist research loops, it is recommended that we then shift the focus to the participants' reflections on this theory.

Theory-building from cases comes with many advantages as well, such as the likelihood of developing novel, testable and empirically valid theory that closely mirrors reality [58]. In order to ensure rigor in this qualitative study, we have used strategies of prolonged engagement, persistent observation and rich, thick data (three related strategies, implemented through an intense period of participative and non-participative observation, followed by interviews and focus groups only after a relation of trust had been established); negative case analysis (focused on the identification of context elements explaining why the outcome differed for that particular person or project activity); peer review debriefing; member checking (both in later interviews and focus groups); and triangulation [62, 63]. Our realist yet grounded theory-building approach allowed enhanced data validity and reliability in at least two ways [62, 64]. First, data were collected and analyzed in practice, in real-life settings. Since controlling the variables is not possible when studying complex social problems, it is important to know as much as possible about the variable in which the supposed key mechanisms function. Therefore, keen documentation of the context in which the mechanism

is trigged, is required, and this preferably repeated in differing contexts and circumstances. Selection of the cases and the interviewees of interest to these cases has been done with respect to this principle. Second, although the study data were grounded in practice, analyzing them was a process of constant cross-pollination, both because of the transdisciplinary approach of the project (bringing together practitioners, academics and policy makers) and because of the fact that social scientists are always in contact with and influenced by existing theory, even when not aware of it [39]. At the one hand, the developed CMO configurations and the way they have been linked together confirm what various 'grand' theory has claimed before, which reinforced the reliability of the study data and oriented the shaping of program theory. At the other hand, the constant process of checking and discussion of findings with key stakeholders and social users of the CATCH project (all community sport organizations involved in or informed by the project), brought the analysis to a widely carried consensus.

Study implications and recommendations for policy makers and practitioners

This study has contributed to the identification of facilitating conditions for community sport to play a health-promoting role for socially vulnerable groups (cf. Table 1), allowing program developers to consider essential working ingredients and contextual boundaries in setting-up successful health promotion initiatives. The study is also inspirational for developers and policy makers as it allows considering intermediate outcomes while evaluating programs, and interpreting (a due absence of) effects in light of mechanisms and conditions to be installed. We highlight some of the main key messages. First, since the community sport coach essentially acts as a change agent, an accurate 'casting' and 'directing' of community sport coaches is quintessential. It is recommended that community sport organizations map the different profiles available among the project's human resources and evaluate the potential need for training in issues related to social vulnerability, personal development through sport, motivational coaching techniques and group dynamics. This enhances the capacity of coaches involved in the program to shape the context as such that necessary conditions are met for triggering the key mechanisms of community sport. Second, our data suggested the asset of involving peer experts in sport health programs. Therefore, we recommend efforts are made for identifying the right conditions for peer experts to take on a role in helping others to become more socially included, and consequently, for providing peer experts with opportunities to play this role in a safe and supported setting. Third, a strong link, excellent communication and a shared agenda with partner organizations are paramount to the set-up of effective sport health programs. Examples of relevant actors include the Social Welfare Council, job integration services and organizations working on prevention and health promotion. Fourth, structural project collaboration, sharing of material and human resources and shared monitoring and evaluation systems may significantly enhance the efficacy of community sport organizations. A strongly organized community sport network may also be an opportunity to bundle different short term project funding into a more substantial and stable project fund, allowing training and retention of community sport coaches as change agents and a long-term follow-up of project participants.

Conclusion

Community sport can be a powerful lever for health promotion when certain conditions are met. A safe and trustworthy climate in which community sport participants can be themselves and learn by experience and from others, is the basis from which community sport coaches depart to assist socially vulnerable persons in setting and pursuing personal health goals, and to contribute to the participants' resilience building trajectory. Although, for example, a decrease in use of tobacco, alcohol and drugs could be observed in some participants, loyal to the program, participating in community sport activities is rarely directly affecting people's physical condition and health indicators. Participating in community sport activities makes socially vulnerable people feel better due to an increased self-esteem, self-efficacy and motivation to set and pursue health-related goals, resulting from processes of experiential learning among peers, incremental responsibility-taking and reflexivity. These processes, and the right context factors for these processes to occur, are mainly triggered and reinforced (or limited) by the ways in which the coach interacts with the participants and coaches the group. Therefore, this study stresses the need for reflection on community sport coaches' required profile and skills set in order to be able to improve the soil and shape the necessary conditions for community sport to become a lever for health promotion.

Supplementary information

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Additional file 1. Overview of data collections.

Additional file 2. Initial Program Theory - CATCH Health promotion.

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Authors' contributions
KV and EL collected and analyzed the data. KV wrote the manuscript, with substantive contributions by EL and SW. SW supervised the study, provided technical guidance and guarded overall study quality. All authors read and approved the final manuscript.

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Availability of data and materials
The datasets generated and/or analyzed during the current study are not publicly available due to the unavailability of English translations for all of the transcripts, but are available from the corresponding author on reasonable request.

Ethics approval and consent to participate
The case study was approved by the ethical committee of Ghent University (number B670201836103).

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests.

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Publisher's Note

Study 2: Using knowledge: Developing, implementing and evaluating a learning path for sport-plus coaches

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All models are wrong but some are useful.

— George E.P. Box

Health promotion in socially vulnerable youth: sports as a powerful vehicle?

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Abstract

Community sport has emerged in the past decades, and uses sports as a lever to improve health and wellbeing among socially disadvantaged youth. Despite this premise, we do not know whether and to what extent health promotion aims are achieved within community sports practice. Measurable actions are needed, but it can be hard for researchers or practitioners to know how to approach this. This study aimed at developing a health-promoting intervention targeting youth attending community sports. To this aim, we used a planned approach for intervention design within a community-based participatory research design. The result is a group-based program promoting health-supportive behavior among community sport coaches, as we found coaches to be quintessential in fostering motivation towards health behavior change in vulnerable youth attending community sports. The design of such a complex intervention is difficult, yet tractable, when using a planned approach. Of importance, community engagement was the core of our work and we provide the reader with detailed examples on the combined use of participatory research and planned intervention design. This paper provides an exemplar of how to approach the development of a health promoting intervention in hard-to-reach populations.

Background

Although most young people are healthy, there is still significant illness and disease suffering, and even premature death (SDG Indicators, Global Database, 2018). Mental health issues are among the most prevalent health issues in a young population. A large-scale European survey study, reporting on data from 2013-2014, shows that almost a quarter of the 11- 13-, and 15-year olds report symptoms of nervousness, sleeping problems and depressed feelings (Inchley et al., 2016). Also, many health risk behaviours, such as smoking, poor dietary habits, physical inactivity, or alcohol use develop or increase during adolescence (Alamian & Paradis, 2009; Monshouwer et al., 2012; Mitchell, Pate, Beets, & Nader, 2012; Nader, Bradley, Houts, McRitchie, & O'Brien, 2008; Ortega et al., 2013). These unhealthy behaviours likely persist into adulthood (Due et al., 2010), and may increase disease prevalence and mortality in later age (Djoussé, Driver, & Gaziano, 2009).

There are remarkable health disparities, even among young people. Young people from disadvantaged groups encounter more (chronic) health complaints (Berry, Bloom, Foley, & Palfrey, 2010; Holstein et al., 2009), mental health problems (Goldfeld & Hayes, 2012), and have increased adult morbidity and mortality rates (Chartier, Walker, & Naimark, 2010). Health promotion practice might contribute largely in reducing these health inequalities. Still, however, current health promotion programs continue to fail in reaching the more socially disadvantaged populations for a number of reasons. First, health promotion programs tend to overlook the social factors that impede health in vulnerable youth (Mohajer & Earnest, 2010). Second, they tend to address health issues as problems. Instead, empowering interventions, that are mainly designed to increase one's power to question social health norms, have proven to be more effective in promoting health within vulnerable young populations (Wilson et al., 2007). Third and last, health promotion among youth is often achieved in school contexts. However, school-based programs might not prove evenly effective for all youth. For example, anti-smoking interventions seem to work better for adolescents with a low socio-economic background when spread through informal social networks (peers) instead of through school (Mercken et al., 2012). Questions then remain on how to develop and set-up health promotion actions that are more equitable and able to address socially disadvantaged youth.

A promising strategy is to make use of community sport programs (Spaaij, Magee, & Jeanes, 2013). In Belgium, community sport initiatives were first launched in the late 1980s. Their premise is to use sports as a mean to work towards other goals, among which the goal to adopt a healthy lifestyle (Haudenhuyse, Theeboom, & Coalter, 2012). However, it is not

known whether and to what extent this aim is achieved. Measurable actions are needed, but the development of such actions is relatively new to the field of community sport. It can be hard for researchers or practitioners to know how to approach this. Therefore, the aim of the current study is to describe the development process of a health-promoting intervention targeting socially vulnerable youth within a community sports context.

Methods

Design and approach

Intervention Mapping (IM) is used as a stepwise model for designing health interventions (Bartholomew, Parcel, Kok, & Gotlieb, 2001; Bartholomew, Parcel, Kok, Gottlieb, & Fernandez, 2011). IM consists of six steps: 1) identifying community needs; 2) stating intervention aims; 3) selecting the methods and applications for behavior change; 4) constructing the program plan; 5) constructing the implementation plan; and 6) constructing the evaluation plan. The present paper focuses on intervention development, and thus steps 1-4 of the protocol. Step 1 is explained within the section 'Identifying community needs' below. A community participatory design approach (Minkler & Wallerstein, 2003) was used to progress across steps 2 to 4, and to co-create the final intervention. These steps are further explained within the section 'process of synthesis'.

Theoretical frameworks and models

There are three main theoretical approaches that we build on and that ensure strong theoretical underpinning of the intervention. These are: (a) tackling the main reasons of health (supportive) behavior using social cognitive models; (b) behavior change support using a taxonomy of behavior change techniques; and (c) supporting a logical sequence of the intervention using a theoretical process approach.

Social Cognitive Models. Key concepts from social cognitive models help to identify the determinants or reasons underlying health (supportive) behavior at stake. More specifically, we build on and combined determinants of three well-established theories of behavior change, including the Theory of Planned Behavior (TPB; Azjen, 1985), the social cognitive theory (SCT; Bandura, 1986), and the Transtheoretical model of behavior change (TTM; Prochaska & DiClemente, 1983). The TPB postulates human behavior to be governed by one's personal attitudes, namely how one rationally thinks about the behavior and its

favorability. TPB also assumes the individual to be affected by their perceived behavioral control, or what they think and believe their ability is to actually perform or engage in health behaviors. This element of perceived behavioral control is much more advanced within the SCT. Central within this theory is the concept of self-efficacy, referring to one's confidence in overcoming barriers. SCT predicts individuals to engage in behavior when knowing how to engage, valuing the outcomes of engaging in the behavior, and being confident that they will be able to overcome barriers. TTM assumes individuals move through a series of stages when modifying behavior. Earlier stages require knowledge and attitude building, while individuals in later stages need to build self-confidence and acquire skills to engage into behavior and overcome barriers.

Taxonomy of Behaviour Change Methods. We adopted the taxonomy on behavior change methods as presented in the IM protocol (Bartholomew et al., 2011). This taxonomy aids the selection of methods that have the best potential to change one or more determinants of behavior of the target group.

Health Action Process Approach. It is important to ensure that the final intervention is planned in a logical way so that it increases the chance of being adopted. To maximize the likelihood of adoption, we applied principles of the Health Action Process Approach (HAPA; Schwarzer, 2008) to guide decisions on the sequences in which the intervention elements are delivered. There is the idea that when engaging in new behavior, people move from motivation to volition. Therefore, the intervention should first ensure that people get motivated and develop an intention to change behavior. Then, people should be assisted to translate their intention into actions. The logical sequence of an intervention should therefore parallel these stages of behavior change.

Identifying community needs

Identifying target user's needs and preferences for an intervention is an essential first step towards intervention development (Bartholomew et al., 2011). Our goal was to dissect the views of community sport coaches regarding youngsters' health behavior and how to approach them. Data were obtained as part of a larger research project CATCH (Community Sport for AT-risk youth: innovative strategies for promoting personal development, health, and social cohesion. This 4-year (2016-2019) multi-centric research project aims at examining the mechanisms and context factors of how community sports may impact personal development, health and social cohesion. Street soccer teams from three small to medium

Flemish cities targeting youngsters and adults in homeless situations were observed and we gathered data from training moments, leisure moments, teambuilding activities, staff meetings and national and local tournaments. Also, semi-structured interviews were performed with coordinators, coaches and social partners (N=22) as well as participants (N=10). Partners ranged from social workers, youth workers, centers for social welfare to drug rehabilitation centers and homeless shelters. Lastly, two focus group interviews with coordinators, coaches and partners (respectively N=6; N=7) were held.

Ethics. All study participants provided informed consent after verbal and written information. The Ethics Committee of Ghent University Hospital approved the study (reference number: 2016/0606).

Data analysis. We applied the method of grounded theory (Glaser & Strauss, 1967) involving the systematic development of a theory or agglomerate of interrelated concepts. Data were collected iteratively, sourcing from (participatory) observations and semi-structured interviews. Consecutive focus groups served to validate the data obtained. Data were generated and analyzed using the constant comparative method of grounded theory (Glaser & Strauss, 1967). Two researchers independently read transcripts. Open coding was carried out and themes were extracted. Supposed determinants of risk-related health behavior were defined in separate nodes/themes and then grouped into overall categories and finally organized in a preliminary theory. Themes extracted from focus group data served to validate our findings and decide on gaps, contradictions and uncertainties in the preliminary theory.

Process of synthesis

We synthesized the data and decided on the final intervention using an iterative participatory design approach following the aforementioned steps of the IM protocol (steps 2 to 4). Step 1 of the IM protocol is tackled in the section above. Below, steps 2 to 4 are explained in more detail.

Stating intervention aims (step 2). Step two of IM determines the goals for the intervention, specifying what the target population has to do or change as a result of the intervention. The research upon which the intervention development draws was conducted through a Flemish case study. The case, a community sport initiative from a medium, regional Flemish city other than the ones studied within step 1, was selected from a full range of community sport practices in Flanders due to its interest and rather implicit attention to the role of community sport as a vehicle for health promotion. The initiative provides open-air activities within six neighbourhoods that are primarily focused on young children and teenagers from unprivileged

and often poor areas. The initiative is run on a daily basis by two main coordinators and a varying number of community sport coaches, up to a total of 6 or 8. The majority of the coaches are BOP practitioners (Buurtsportwerkers in Opleiding – Community Sport Practitioners in Training). BOP practitioners follow an employment and education trajectory, with the ultimate goal of vast employment after training. Their profile is characterized by several vulnerabilities, among which longer-term unemployment, disruptive childhoods, school dropout, poverty, financial debts, problematic substance use (e.g., alcohol, drugs), poor housing, major psychological problems (e.g., depression, psychosis), and/or language issues. The education trajectory they follow is met through short-term training courses and/or longer-term courses by for instance obtaining a high school or Bachelor degree. An intervention aimed at increasing healthy living among vulnerable youngsters fitted the mission and aims of the community initiative as it may further train BOP practitioners in achieving social skills. A core team consisting of two researchers (KVDV, EL) and two community coach coordinators (LG, RS) synthesized the information to be covered in tangible intervention aims. Coordinators were both well aware of the needs and preferences of the target users and target population with the intervention, while preserving a necessary broad scope on the intervention targets and aims. The intervention aims were based on the knowledge as obtained in step 1. This knowledge was complemented with evidence base (as outlined within the theory of youth mentoring by Pawson in 2006). When stated too broadly, intervention aims were broken down into sub-aims or reflections of the actions that target users should be able to perform after the intervention. Next, the main determinants or reasons behind the actions were synthesized, again based on the knowledge of step 1 as well as evidence-based theories (represented by social cognitive models as outlined within the section theoretical framework and models). Finally, the measurable outcomes in terms of behavior and determinants that we wanted to observe in coaches as a result of the intervention ("*change goals*") were defined.

Selecting the methods and applications for behavior change (step 3). The objective of step 3 within IM is to generate the core of the program. The main idea behind this step is to link the change goals to effective *methods*, and to translate these into practical *applications*. Methods are theory-based and consist of techniques that have been shown to be able to change one or more determinants of behavior (Abraham & Michie, 2008; Bartholomew et al., 2011). An application is a translation of a method in a way that their use fits the target population for the intervention, and the context in which the intervention will run (Bartholomew et al., 2011). A brainstorm was held by a core team of researchers and community members (see above) and

preliminary ideas for methods were collected. These were complemented with current evidence on effective behavior change methods from existing taxonomies (Bartholomew et al., 2011; Kok et al., 2016). Behavior change methods are general techniques or processes that have been shown to be able to change one or more determinants of behavior of an at-risk group or of environmental agents. Taxonomies summarize the evidence for a method regarding effective behavior change based on several behavioral and/or social science theories (Abraham & Michie, 2008). Within these taxonomies, general methods are described for influencing several different determinants. Also, methods are outlined that serve to influence specific determinants, such as there are methods for influencing attitude (e.g., self-reevaluation, direct experience, etc.), methods for influencing self-efficacy (e.g., guided practice, verbal persuasion, etc.), etc. Also, taxonomies describe the parameters that have to be met in order for methods to be effective in specific populations and environments. These parameters help to translate the theory-based methods to practical applications in order to reach optimal fit (Bartholomew et al., 2011; Kok et al., 2016). Behavior change methods were decided on by the researchers of the participatory design group because of expertise and experience with this selection process. These methods were then reviewed and agreed upon by the entire group. Next, the group translated methods into applications taking into account attractiveness and relevance to community coaches.

Constructing the program plan (step 4). The main aim of step 4 is to build the intervention in terms of content, scope and sequence, making use of the methods and applications selected in step 3. The HAPA model (Schwarzer et al., 2008), explaining human behavior change to transition from motivation (e.g., “Do I want to perform this behavior”) to volition (“How do I succeed in translating my intention to change my behavior into action?”), was taken as a backbone for constructing the intervention sequence. The final intervention was drafted through iterative brainstorm and discussion among the members of the participatory design group. The applications of step 3 were taken as a starting point. We were also able to integrate material from other training curricula (e.g., videos, teasers, assessments) that shared some topics or themes. Iterations of the content were discussed and refined by the participatory design group. Evaluation included whether it met the needs of the community, how it was presented, the design of the training and material (e.g. hand-outs, assessments, etc.). This on-going involvement meant that the participatory design group shaped the entire intervention

Results

Step 1: Identifying community needs

Determinants of risk-related health behavior were identified at two levels: the individual and environmental level. Individual level determinants included (i) 'self-awareness', (ii) 'sense of safety', (iii) 'self-confidence', and (iv) 'sense of belonging'. 'Self-awareness' referred to youth being knowledgeable regarding own risk-related health behavior. 'Sense of safety' referred to youth feeling recognized, understood, and accepted as a person. 'Self-confidence' referred to building up success experiences by pushing physical and mental limits through community sport activities. Increased self-efficacy was reported to create openness in discussing health-related problems, and to promote healthy behavior, also outside the community sports context. These latter two determinants were also interrelated. A low sense of safety was related to low self-confidence, and hence being more prone to risk-related health behavior. Finally, 'sense of belonging' related to the sense of feeling noticed and known by peers and community sport coaches. When sense of belonging was high, youth expressed to feel accepted and being given an equal chance to develop personally and to live healthily regardless of sportive capabilities. 'Environmental-level' determinants included (i) 'a safe and trustworthy environment', (ii) 'a positive coaching climate', (iii) 'group dynamics', and (iv) 'a climate that facilitates health-promoting behavior'. 'A safe and trustworthy environment' referred to the availability and accessibility of the coach to openly discuss (health-related) problems. 'A positive coaching climate' was described in various ways: coaches acting as mentors, allowing to learn from mistakes, encouraging to take up roles and responsibility, supporting in setting health and developmental goals. 'Group dynamics' consisted of a positive and stimulating group climate and cohesion between members of the group. This was reported to lead to a greater sense of belonging, and to lead to higher participation and more healthy behavior in its own right. Lastly, 'a climate that facilitated health-promoting behavior' was expressed in ways such as sharing good times over a healthy snack or the provision of fruit and water during sports, and role modeling of coaches and respected peers (e.g., the coach demonstrating how healthy eating may link to sport performance and healthy living as a whole).

Step 2: Stating intervention aims

In line with the mission and aims of the community initiative (see above), the participatory design group decided on an intervention targeting environmental determinants. More specifically, it was decided that a later intervention should aim at creating a health-supportive

environment through the coaches' behavior. Based on the knowledge of the previous step, intended behavioral actions should relate to four important broad themes, namely safety and trustworthiness, positive coaching, group dynamics, and facilitation of health promotion by adapting the context of the community initiative. A total of 24 "actions" was selected. For a detailed overview see Table 1. Determinants addressed included: awareness/knowledge, attitude, self-efficacy, and skills. Examples of measurable change goals include: coaches (…) (1) (…) are aware that stimulating roles and responsibility is important for youth to increase sense of belonging motivating them to participate in health-promoting actions *(awareness/knowledge)*; (2) (…) express advantages of acting as a role model regarding healthy behavior *(attitude)*; (3) (…) express confidence that they can be a role model during community sport initiatives (e.g. no smoking, healthy snacking, acting relaxed, sufficient sleep) *(self-efficacy)*; (4) (…) show skills in providing a health-promoting climate (e.g. through the provision of healthy snacks, etc.) *(skills)*. For reasons of readability, we cannot provide the extensive list of change goals here. It can be obtained from the authors on request.

Step 3: Selecting the methods and applications for behavior change

The methods to promote knowledge and self-awareness include providing information about the problem or confrontation about the causes, consequences, or alternatives for a problem; visual aids; and guided learning (Bartholomew et al., 2001). Attitude change was promoted through experience-based methods such as direct experience (shifting one's attitude through the interpretation of own experiences), self-reevaluation and environmental reevaluation (shifting one's image of own behavior through encouragement in seeing one's behavior with regard to either one's self-image or in relation to one's social environment), and modeling (changing opinions and ideas by providing an acceptable model that is being reinforced for the new behavior) (Bartholomew et al., 2001). Self-efficacy capacity and skills were enhanced mainly through methods suggested by the Social Cognitive Theory of Bandura (Bandura, 1986) such as:

- Self-monitoring, goal setting, action planning and feedback: guiding and providing techniques that help individuals in reaching goals
- Modeling of behaviors: providing an appropriate role model that is being reinforced for the desired behavior
- Problem-solving: prompting to list possible barriers and ways to overcome these

- Discussion and elaboration: changing the way one thinks about the problems and ways to overcome it
- Direct experience and active learning: assuring engagement and decision-making and ensuring learning from own experiences
- Verbal persuasion: messages from credible sources (e.g. coordinators, experts) suggesting one possesses certain capabilities

Table 2 presents the methods used and how they were translated into applications.

Step 4: Constructing the program plan

The program was designed as interactive and fun, delivered clear messages about health promotion and skill building, and included target group appropriate methods. It was designed as a group-coaching program, though individual guidance and feedback were built in. The intervention was spread over a period of several months, in order to create opportunities for the coaches to bond with each other and the participatory design group.

The building blocks of the intervention consisted of ten 4-hour group sessions and several 1-hour individual sessions at the beginning, at the end and in between group sessions. Each group session followed the same structure being (1) reflection on past sessions, (2) delivery of new content, (3) exercises and/or skill building, and (4) closure w/without take-home activities. The 4-hour sessions were organized at a slow pace with an energizing (e.g. 7-minute work-out) or calming-down (e.g. meditation moment) break at least twice per session.

Table 3 illustrates the breath and amount of content during the intervention (scope) and the order in which the content was delivered (sequence).

In the first four group sessions emphasis was put on creating a safe environment and a bond of trust. Although the coaches were already acquainted before, they had never worked together around topics as personal as the ones delivered during the intervention. In addition, in this first series of sessions, we used methods and techniques to raise awareness on health, lifestyle, and the merits of health promotion among youth attending community sports. Through open debates, self-reflection, the provision of evidence-based health information, and exercises through the course of the sessions, coaches were encouraged to raise their consciousness on the advantages of healthy living, and obstacles to act healthily.

During the two following individual sessions with a job coach/mentor, coaches were encouraged to discuss their health status, to think of ways to improve their health and lifestyle

and to convert these ideas into personal health goals (e.g., with regard to exercise, healthy diet, rest and relaxation, sleep hygiene, tobacco or alcohol use). A personal action plan was developed with each individual, and individual progress was tracked during the following individual session.

Later group sessions, which focused on attitude shifting, self-efficacy and skill building, aimed at encouraging coaches to discuss health-promoting behavior and helped them to build skills and apply health-promoting actions during community sports activities. During this series of group sessions, methods included were obviously different. We made use of direct experience, self-reevaluation, modelling and other attitudinal experience-based methods. Self-efficacy and skill building were influenced by methods such as goal setting, action planning, guided practice, verbal persuasion, and modelling, among others.

Two reflective observation exercises interspersed the series of group sessions, and aimed at providing coaches with a good example of applying the skills in practice.

At the end of the series of group sessions, coaches were encouraged to prepare and organize a community activity while being asked to apply as many of the skills learned in order to promote participation and healthy living among youth attending the activity. Immediate constructive feedback was provided.

Lastly, a job coach spent at least one follow-up individual session discussing the coaches' own progress regarding living healthy, as well as their concerns or problems in applying skills to promote health among youth attending community sport activities.

Discussion

Our study focused on the systematic development of a health promoting intervention for socially vulnerable youth within a community sports context using the IM protocol. The IM protocol proposes different steps to intervention development, and we describe these steps combined with a participatory design approach. The current paper describes the development process of an intervention, which is particularly important in the field of intervention design for health promotion where the development and content of such interventions is rarely described (Michie, Fixsen, Grimshaw, & Eccles, 2009). This is especially important for interventions aimed at being enrolled within a community sport context, as no such examples exist yet. Our analysis of the needs of target users within a community sport context showed that both individual-level as well as environmental-level determinants were associated with

risky health behavior among youth. The participatory design group decided on an environmental-level intervention in line with the vision and aims of the community initiative that provided the research context of the current study. The general aim of the intervention was to increase health-promoting behavior of community sport coaches. A group coaching program was developed covering themes as self-awareness of one's role as a community sport coach and as a model promoting healthy living, motivational coaching and communication regarding health and well-being goals, and facilitating positive group dynamics and a healthy climate.

There are at least three major findings that deserve further attention. First, we began this paper with the question whether sports may be a powerful vehicle in promoting health among socially vulnerable youth. We found that community sports may nurture self-awareness, self-efficacy beliefs, and a sense of relatedness, important determinants of healthy choices among youth. Coaches may provide the necessary conditions to support and nurture such choices. Mackenzie and Stoljar (2000) describe this as 'relational autonomy', stating that health agency develops in relation to the environment, for instance through valuable social and interpersonal relationships. This idea is also in line with the 'empowerment view' on health promotion (Mohajer & Earnest, 2009; Wardrope, 2015). Second, our community needs analysis pointed at the influence of different levels of determinants on health behavior, both individual as well as environmental determinants. This finding fits an ecological conceptual model on health promotion, assuming that both individual factors, various levels of environmental factors, and the interaction between these different levels impact health behavior and outcomes (Crosby & Noar, 2010; Kok, Gottlieb, Panne, & Smerecnik, 2012). Our micro-level intervention may very well complement individual approaches already existing in public health practice, namely the provision of health education, support, and so forth. Third, it is a particular strength that our approach to intervention development included participatory design methods. A participatory design group, consisting of both researchers and community stakeholders, determined the content and design of the intervention. This makes the designed program practice-driven, referring to continuous participation of and reflection with local stakeholders about the program scope, content and delivery modes, as well as theory-driven, referring to the systematic step-wised approach and selection of theory-based determinants and methods for the intervention. Our participatory design approach clearly adds to the general validity of the study, however, it also comes with challenges because community involvement is of course a complex endeavor (see also, Spaaij et al., 2018). It requires *continuous* collaborative efforts between academics and community partners, while

recognizing the strengths of each and allowing for shared leadership and decision-making (Minkler & Wallerstein, 2003). The participatory approach described in this paper is however a good starting point and might allow researchers and practitioners to build further on the ideas and cumulate knowledge and good practice.

Our study has a few strengths, yet each comes with a possible shortcoming. First, our contextual analysis has clear validity within our studied community context(s), but we are not sure whether the same findings hold in other groups as well. We believe, however, to have added to the field by exploring the evidence on factors impacting health in a group that is difficult to reach. Qualitative assessment in other groups and contexts is still needed. At least, the IM protocol may be used as a checklist to gain understanding on health issues and related influencing factors in other groups as well. Second, our coach program may complement standard individual-level prevention efforts in promoting youth's health. Nevertheless, there are other social and physical environmental factors that were not addressed in the program. Future intervention studies need to take into account these multiple levels of influence simultaneously in order to have maximum impact of health promotion. Third and last, in this paper we addressed issues related to the design of an intervention. Results regarding implementation and impact of the intervention will be published elsewhere, whenever available. However, health promotion practice can only be advanced if the development of interventions and their content are sufficiently described (Abraham & Michie, 2004). Our approach, using the combination of IM and participatory design methods, may be exemplary and may offer researchers and health promotion practitioners with necessary details if wanting to develop health promotion intervention within community sports in the future. The explicit use of theory was essential, with TPB (Azjen, 1985), SCT (Bandura, 1986), and TTM (Prochaska & DiClemente, 1983) to inform the intervention aims; a taxonomy of Bartholomew et al. (2011) to guide specific methods for behavior change; and the Health Action Process Approach (Schwarzer, 2008) to provide the logical sequence of the intervention. We hope by describing the development process and content of the intervention, we will further research in the field. By detailed reporting of the intervention elements, mechanisms and approach, we hope to act as an exemplar for researchers and practitioners that aim to build health-promoting interventions to improve adolescent health within the domain of community sport. Once properly described, researchers and practitioners may make choices of how to adapt an intervention, while preserving its essential working elements. Bowing on well-described examples is helpful in a context of limited time and money for development.

Conclusions

Our study showed that community sports may be a powerful vehicle to deliver empowering, health-promoting programs in socially vulnerable youth that are not easily reached through standard prevention measures. Our combined use of IM and participatory design methods shows to be fruitful in developing a theory-driven yet culturally sensitive intervention. As effective intervention design remains a complex endeavor, the use of a participatory design approach may appear to be quintessential in increasing chances that target users accept and adopt actions, and maintain these over time. This paper adds to the literature in providing principles to integrate participatory design methods into an existing planning approach in order to create an acceptable intervention in the field of health promotion.

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571 **Table 1. List of health-supporting actions formulated for the intervention**

Creating a safe and trustworthy environment
1.1 Coaches stimulate participants to get to know one another and the coach
1.2 Coaches gain insight into the living environment of participants
1.3 Coaches create a bond of trust with participants
1.4 Coaches communicate proactively on expectations and tasks
1.5 Coaches organize their sessions in a structured manner and make use of rituals created by the group
1.6 Coaches offer sport and healthy activities that are perceived as fun
1.7 Coaches make use of games to promote sports and health behavior
1.8 Coaches expose participants to various forms of sports and health-promoting activities
Assisting youths in a positive manner regarding participation in sports and health promoting activities
2.1 Coaches stimulate participants to identify strengths within themselves
2.2 Coaches refer to and focus on strengths of participants (and do not compare individuals)
2.3 Coaches are task-oriented and prioritize efforts over results
2.4 Coaches allow mistakes made by others and themselves and motivate (others or themselves) to learn from those mistakes
2.5 Coaches give feedback in a constructive manner (formulation, body language…)
2.6 Coaches are able to listen and to have two-way communication
Enhancing group identity regarding participation in sports and health promoting activities
3.1 Coaches help to create and regularly refer to a common goal
3.2 Coaches emphasize/visualize the group identity wherever possible
3.3 Coaches stimulate constructive role distribution within the group (and actively change it when trusted)
3.4 Coaches identify sources of conflict timely and are able to prevent escalation of conflict
Promoting and enabling positive health behavior by setting examples
4.1 Coaches reflect on their level of health promoting behavior and set self-goals
4.2 Coaches promote a sense of self-reflection among participants regarding their health promoting behavior in accordance with their values, loyalties and ambitions
4.3 Coaches act as a role model regarding various aspects of health promoting behavior
4.4 Coaches expose participants to different health choices
4.5 Coaches inform on the offer of tools, instances and possibilities outside the sport plus program regarding sports and health behavior
4.6 Coaches discuss referral to specialized instances whenever youths express problems regarding health and well being and upon request

572 **Table 2.**

573 **Linking behavioral determinants, methods, and applications**

Behavioral determinants	**Methods**	**Applications**
Knowledge and Awareness	Advance organizers	Written and visual information in printed session notes for coaches In-session notes on flip-over Structured group sessions
	Consciousness Raising Persuasive communication Discussion	Through awareness exercises, based on brainstorm, discussions, and small assignments in between sessions, coaches learn to identify (own) risky lifestyle behaviour(s)
Attitudes	Direct experience Self-re-evaluation Environmental re-evaluation Elaboration	Through awareness exercises, based on brainstorm and discussion moments and fun and entertaining (sport and exercise) activities, coaches learn to identify current beliefs on health, their lifestyle and the problems they might face in (later) life as well as in social interactions.
	Modelling	Coaches and peers share examples on health, lifestyle, and problems they might face in (later) life
Self-efficacy and Skills	Active Learning Direct Experience	Interactive sessions that encourage coaches to search for answers themselves instead of passive learning and listening.
	Individualization Tailoring	Before the start of the group sessions, coaches have a personal conversation with researchers

		w/without a confidential person in order to speak openly about their views on health and current lifestyle behaviour, as well as the way they promote health among youth attending the community sport activities. During the course of the intervention, individual sessions are planned with their jobcoach/mentor in which coaches can ask about their personal concerns and problems regarding their health and lifestyle, and individual progress is tracked.
	Self-monitoring of behaviour Goal setting Guided practice Planning coping responses Feedback Verbal persuasion Provide contingent awards Providing reinforcement	Coaches learn to identify their ambitions and values regarding health, and learn to formulate desired goals and outcomes. This is achieved through individual sessions during the course of the intervention. In addition, skills regarding health-promotion among youth are being actively practised during group sessions, and coaches are given feedback, as well as are encouraged, motivated and self-awarded to find solutions for problems and how to handle these.
	Modelling	Role models of other community sport activities talk about their experiences with group dynamics and positive coaching and this impacts health of youth. In addition, coaches are encouraged to observe other coaches at work.

	Facilitation	During group sessions, healthy living is promoted and visible in various ways (e.g., sport or exercise during break, healthy snacks and drinking, etc.).

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578 **Table 3.**

579 **Scope and sequence of the intervention**

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	Delivery mode	***Session Theme***	***Content***
*	Individual	Personal acquaintance	- Views on health and healthy living - Views on health-supporting behavior among youth
1	Group	Acquaintance with the group	- Getting to know each other through fun exercise activities - Overview of the program - Objectives of the program - Expectations of participants - Discussion of program rules - Speed dates to get to know each other's motivation and drives - Take-home activity on motivation and ambitions
2	Group	Getting to know the (theory behind) the program	- Reflection on past session and take-home activity - Creation of a theory-of-change on how to promote participation and health among youth attending community sport activities - Discussion of recurrent topics of the program (e.g., unconditionality, positive coaching, positive group climate, etc.)
3	Group	Guided visit to a national community sports initiative	- Getting to know the initiative and common grounds with own practice - Getting to know the target population and neighborhood
4	Group	Sports and healthy living	- Reflection on past sessions - Brainstorm and discussion of different themes, such as physical activity and sports, healthy eating, caffeine and energy drinks, and smoking and drug

			abuse - Take-home activity on self-reflection of own health behavior
*	Individual	Personal health objectives	- Reflection on past group sessions - Discussion of own health behavior - Development of personal action plan
*	Individual	Follow-up session personal health objectives	- Reflection on past successes or problems - Follow-up on personal action plan
5	Group	Motivating youth: what and how?	- Reflection on past sessions - Information on the why and how of positive coaching - Exercises to apply positive coaching to community sports in order to promote participation and health among youth - Take-home activity on positive coaching
6	Group	Communication in practice	- Reflection on past session and take-home activity - Information on empathic communicative skills (e.g., listening, affirmation, asking questions, etc.) - Exercises to apply communication to community sports in order to promote participation and health among youth - Take-home activity on communication
*	Individual	Reflective observation exercise	- Learning about the application of positive coaching and communication - Learning by observing a peer
7	Group	Group dynamics	- Reflection on past session and take-home activity - Information on group and group formation, why to use group dynamics to promote individual participation and health, and group conflict - Exercises to apply knowledge on group and group formation and conflict handling in order to promote participation and health among youth

			- Take-home activity on group dynamics
8	Group	How to create and stimulate group dynamics	- Reflection on past session and take-home activity - Information on methods and techniques to enhance a positive group climate - Exercises to apply methods in order to promote participation and health among youth - Take-home activity on group climate
*	Individual	Reflective observation exercise	- Learning about the application of positive coaching, communication and group dynamics - Learning by observing a sport coach
9	Group	Dealing with developmental/behavioral difficulties in youth	- Information on behavioral difficulties due to contextual factors, and developmental problems - Information on influencing factors of behavioral difficulties - Exercises to apply good practices in dealing with behavioral difficulties during community sport activities
*	Group	Community sports activity organized and animated by coaches-in-training	- Organization of activity in different groups of socially vulnerable youth, followed by immediate feedback
10	Group	General reflection	- Reflective exercises on own risky health behavior, group dynamics, and progression and/or obstacles concerning health supportive behavior throughout the course of the program
*	Individual	Follow-up session personal health objectives and program	- Reflection on program and potential concerns or problems - Follow-up on personal action plan

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RESEARCH ARTICLE

Evaluation of a program targeting sports coaches as deliverers of health-promoting messages to at-risk youth: Assessing feasibility using a realist-informed approach

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Abstract

Unequal access to health promotion resources and early prevention services is a major determinant of health inequity among youth. Initiatives that improve the access to and adoption of health promotion messages are important undertakings, e.g., sport. Sport-for-development (SFD) programs are seen as valuable delivery tools, in which coaches are used as change agents to increase health awareness and behavior among at-risk youth. The delivery of such messages requires specific knowledge and skills that can be attained through training; however, the effectiveness of such training requires assessment. In this study, we evaluated the feasibility of such a training program for SFD coaches using process evaluation from a realist perspective, and views from multiple stakeholders, among other sources. We also clarified the inner workings of the training and investigated how context shaped the training outcomes. Increased health awareness and a sense of responsibility from acting as a role model for at-risk youth were among the perceived training outcomes. Building a safe environment for learning, engagement, and bonds of trust increased the confidence to learn, and resulted in a sense of critical self-reflection and self-development of SFD coaches towards health and prevention messages. Importantly, the unique situations (or context) of SFD coaches and SFD in general presented challenging variables, e.g., a precarious life history or living conditions, mental health issues, or low educational skills, that hampered the impact of the mechanisms put in place by the training. Here, we present a process in which the development of the 'right mind-set,' engagement and bonds of trust, in combination with the right settings are key elements for SFD coaches to learn how to convey health-promoting messages and take responsibility as role models for at-risk youth.

Introduction

Childhood and adolescence are important life phases for the development of healthy adults. However, health is not equally and fairly distributed. In socioeconomically disadvantaged

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groups, inequalities in health already emerge in early life, e.g., with higher risks of low birth weight, prematurity, and infant mortality [1–3], and persist throughout childhood and into adolescence. Children and young people (CYP) in socioeconomically disadvantaged circumstances suffer higher rates of poor mental well-being, and longstanding illnesses, such as obesity and asthma [1, 4]. A large-scale study involving randomly sampled schools in 37 countries across Europe and North America revealed that adolescents with a lower family wealth index showed a higher prevalence of daily health complaints, such as pain or mental health issues, compared with adolescents from wealthier families [5]. The conditions during early life not only affect childhood health but can also have long-term effects on adult health. For example, obese children are more likely to develop obesity as adults [6], a condition that is associated with an increased risk of a number of serious health conditions, such as cardiovascular diseases, type 2 diabetes, and cancer [7]. Because of this, inequalities in the socioeconomic circumstances during childhood contribute to the health inequalities seen in adulthood.

Inequity in access to health services, such as early health promotion and prevention, is a major determinant of health inequity among youth [8]. Prevention is key to improving health outcomes by targeting unhealthy behavior such as smoking, poor diet, physical inactivity, or alcohol use. All CYP should have access to prevention services because unhealthy behavior has an early onset [9–13], tends to persist into adulthood [14], and can, therefore, increase the risk of morbidity and mortality at a later age [15]. Inequities in long-term health can be reduced not only by improved access to health promotion and prevention services but also by the tailoring of these services to the circumstances of CYP, among other initiatives [8].

Sport-for-development (SFD) may provide a setting through which health promotion and prevention messages can more easily reach and be adopted by hard-to-reach populations. SFD initiatives use sports as a vehicle to tackle other issues, such as education, employment, community involvement, health promotion, and prevention [16]. SFD is a relatively new sector and the inner workings of SFD initiatives have been actively studied since the late 1990s [16–18]. The successes of health promotion initiatives are linked to the barriers that poor and marginalized communities face, such as limited access to health services, a lack of physical access, no affordability, and low acceptability due to specific cultural norms. However, because such activities are typically low-threshold, financially accessible, and locally organized in specific–and often urban–neighborhoods, some of these important barriers are lifted. In addition, SFD coaches play a vital role in the successes of delivering the activities. Because coaches have regular contact with CYP, they have unique opportunities to build trusted relationships that will enable them to facilitate positive changes in the behavior and attitudes of CYP [19, 20]. Coaches are also perceived to be proximate and positive role models for health behavior change [21]. There are examples of health prevention programs delivered by sport coaches [22–24], albeit not in the context of SFD and not specifically targeting action in vulnerable groups. In addition, the effectiveness of the interventions depend on the extent that coaches manage to deliver appropriate knowledge, install appropriate attitudes, and apply appropriate skills regarding the health promotion activities to be delivered [25]; which is especially challenging within SFD. SFD coaches also introduce a range of different skills and personality profiles into SFD initiatives, given the different roles and skills required to coach at-risk youth. Some of these roles include being a trustful friend, a liaison officer between the youth and youth organizations, and a technical coach to develop the sportive capabilities of some individuals [26, 27]. In Flanders, Belgium, organizations often combine these different roles by recruiting different profiles. For example, such scattered workforces can consist of mid- to highly educated coaches that possess sportive or pedagogical degrees (or both) as well as experienced experts that often do not have degrees and have low educational skills.

To enhance the evidence-base regarding the improvement of health outcomes in vulnerable populations by SFD coaches, it is important to gain a detailed understanding on what makes coaching successful in this specific context. To achieve this, we conducted a process evaluation built on realist theory [28]. Realist theory recognizes that many variables operate at different levels, and which account for differences in program effects. It is imperative to acknowledge that interventions do not necessarily work for everyone, because of differences among people and the contexts that they are embedded in. It is, therefore, vital to clarify which elements influence the effectiveness of programs (i.e., mechanisms of impact) and which external variables (i.e., context elements) may hamper or facilitate their impacts [29]. This knowledge is imperative to develop optimal complex interventions and, thus, contributes to decision-making regarding the implementation of interventions on a larger scale [30].

Here, we conducted a process evaluation of an SFD training that targeted coaches to improve their knowledge and skills for the transfer of health promotion messages to at-risk youth. We explored the feasibility of the training program (also hereafter referred to as the 'intervention'), and were also interested in the 'theory-of-change' (i.e., how and when it works) underlying the training. The training was previously developed (for a more detailed overview of the program, see [31]), and was implemented and evaluated in a specific case setting, i.e., the community sport activities of a middle-to-large city in Flanders, Belgium. The aim of this study, was to gather data from multiple stakeholders within this specific context, including SFD coaches, staff, and local policy makers, to enable an in-depth analysis of the feasibility of the training. The study objectives were to determine how to effectively train coaches to ensure their viability as deliverers of health prevention messages to at-risk youth populations, and clarify which elements external to the training and specific to SFD programs can lead to the successes or failures of such training. This study obtained valuable insights that inform researchers and policy makers on the training required to ensure coaches are viable deliverers of health prevention messages to at-risk populations.

Materials and methods

Participants and recruitment

In Flanders, Belgium, ~22% of Flemish municipalities provide SFD activities [32]. These activities are usually subsidized by local governments, and are mostly directed towards the social inclusion of disadvantaged groups, in particular vulnerable CYP [33]. In Bruges, the setting of the present study, SFD initiatives operate under the supervision of Bruges' Public Centre for Social Welfare, which coordinates the social services in the city. Its activities run within the four most deprived neighborhoods in the city, which are characterized by high numbers of single-parent families, children with learning difficulties, unstable accommodation, and low employability.

In February 2018, all SFD coaches (n = 8) and the pedagogical and sportive staff (n = 3) that deliver SFD programs in Bruges were invited to attend a training program. All invited SFD coaches were male, with a mean age of 30.4 years (age range = 25–43 years). The study received ethical approval from the Medical Ethical Committee of University Hospital Ghent (B670201835740). All SFD coaches and staff provided written informed consent (that complies with the details stipulated in the PLOS consent form) to participate in the research study.

Description of the training

The current study forms part of a four-year (2016–2019) research project, named CATCH–Community sports for AT-risk youth: innovative strategies for promoting personal development, health, and social CoHesion–which is aimed at exploring 'why, how, for whom, and

under which circumstances' community sport activities enhance the personal development, health, and social cohesion of at-risk youth. The outputs of previous studies resulted in the development of a program theory and its further refinement by clarifying why, how, and when community sport can promote health, in terms of the mechanisms and context factors of improved health outcomes of at-risk youth. These results are described elsewhere [34, 35], and a training program was developed for community coaches based on the insights of the program theory [31]. A brief overview of this training program is needed to enable the interpretation of the current study, and it is, therefore, described below.

The training program aimed to: (a) increase the awareness and knowledge of coaches on the effects of health behavior on overall health, well-being, and sport performance (e.g., smoking, physical inactivity, poor dietary habits); (b) increase their awareness and knowledge on the mechanisms to promote the health of CYP; and (c) introduce tools and skills to encourage CYP to participate in community sport activities and adopt a healthier lifestyle. To do so, the training program covered topics such as health promotion, healthy living, positive coaching, communication, team dynamics, and conflict. Several strategies were also adopted, including group sessions moderated by one or two tutors with game-based activities, theory and information provision, reflection and discussion exercises, and peer observations. In addition, several individual sessions were planned between and after group sessions. After their first series of four group sessions, each SFD coach had two individual sessions with a job coach, with whom they were already acquainted and had regular encounters regarding their personal (work) trajectories. The aims of these sessions were to encourage elaborated thinking regarding their health status and personal health goals, and the setting of personal action plans regarding their health. At the end of the program, the job coach planned to have at least one follow-up session to discuss the progress of the coaches towards their own healthy living, as well as their concerns or problems in applying skills to promote health among the youth attending the community sports activities. The training aimed to promote change through the application of experience-based and active learning methods, such as raising awareness, guided practice, and skills development, among others. The step-by-step development of the training program, including the links between the methods and their application, is described in detail elsewhere [31].

The training was delivered over several months (between March and December 2018). The training program was co-created and implemented via the close collaboration of the researchers, and the staff and key stakeholders from the intervention site in Bruges. At least two tutors, either the researchers (EL, KVDV) or the staff (LG, RS, NVB), or both, moderated the group sessions. The present study focused on evaluating the feasibility and implementation of this training.

Evaluation design and measures

Multiple process measures were integrated into the design based on the Medical Research Council (MRC) guidelines for evaluating complex interventions [29]. We measured the intervention feasibility (i.e., reach, dose, fidelity, acceptability), but also assessed the supposed theory-of-change, i.e., which factors in the intervention regarding 'how' and 'under which circumstances' led to which effects (e.g., what changes occurred over the course of the intervention that led to some of the observed impacts, what elements appeared to make a difference, etc.). In particular, we used a realist-informed process evaluation (and not a realist evaluation per se) to explore this 'theory-of-change.' Realist evaluations consist of a set of methods and are characterized by an iterative set of stages that involve developing, testing, and refining a theory. Our analysis approach was more inductive, open-ended, and sought to document how

the training resources promoted the changes among participants that led to the observed outcomes, under specific circumstances [36]. We initially assessed the empirical data, and then tried to identify hidden processes and develop ideas using a realist data analysis process called 'retroduction' [37] to clarify what aspects of the training worked for SFD coaches, why the training was effective, and under which circumstances the outcomes occurred. Our identification of hidden processes was informed by a pre-developed program theory on the mechanisms and influencing context factors of improved health among at-risk youth [34]. The current study is best conceived as an in-depth refinement of one of the key-influencing factors within this program theory, being the application of motivational coaching and the installation of positive group dynamics by coaches to increase the health outcomes of at-risk youth. Central mechanisms of impact are experiential learning, incremental responsibility-taking, and reflexivity that may, under the right circumstances (e.g., participants feeling safe around others), beneficially influence the health outcomes. These processes and some of the contextual variables may be transferable to the coach training situation regarding health promotion within this same setting of community sports because the local coaches appear to have similar at-risk backgrounds compared to the youth themselves. Therefore, the mechanisms and contextual variables within the program theory provided a good starting point from which interpretations and hidden influential factors could be inferred from the data in the present study. A visual scheme depicting a 'translation' of mechanisms of impact, contextual variables, and outcomes is presented in Fig 1.

We adopted a summative approach to data collection from multiple stakeholders (SFD coaches, staff, local policy makers) and used different measures to obtain the range and depth of data required (see Table 1).

Process evaluation measures included document logs, direct observations of intervention delivery, session evaluation questionnaires (for SFD coaches and staff), semi-structured interviews with SFD coaches and staff, and a focus group with staff and key stakeholders involved in local or national sport and recreational (community) activities, and local policy.

Document logs. Information regarding the intervention delivery was recorded in a logbook, including the number of participants in each session and in the individual sessions. Communications (including emails, phone calls, and face-to-face discussions) among researchers and staff delivering the intervention modules and sessions were also logged. These document logs were used to assess the intervention reach and dose.

Direct observations of intervention delivery. To explore the reach, dose, fidelity, and acceptability of the intervention, participatory observations of group sessions were conducted (n = 10 in total). At least one researcher was present at each group session to take observational notes. The observer had a general idea of what may be salient but aimed to keep an open mind. The observations were, therefore, unstructured and unfocused, and the narratives were written down with the aim of documenting as much information as possible. These narratives included detailed information on how the activities were delivered to and received by SFD coaches and staff.

Semi-structured interviews. Individual face-to-face interviews with participating SFD coaches and staff (n = 8) were used to explore the theory-of-change and acceptability of the intervention. Interviews took place within a maximum of 8 weeks after the end of the intervention. All interviews were held in person by the third author in a private room at the SFD setting. This researcher had content-related experience which gave breath to the data collection. Due to this experience, a self-reflective stance was adopted during interviewing, and, having extensive methodological expertise, a general openness and curiosity about the interviewees' experiences was established. Interview topics covered all components of the intervention, including the perceptions of the intervention modules and sessions, their supposed impacts,

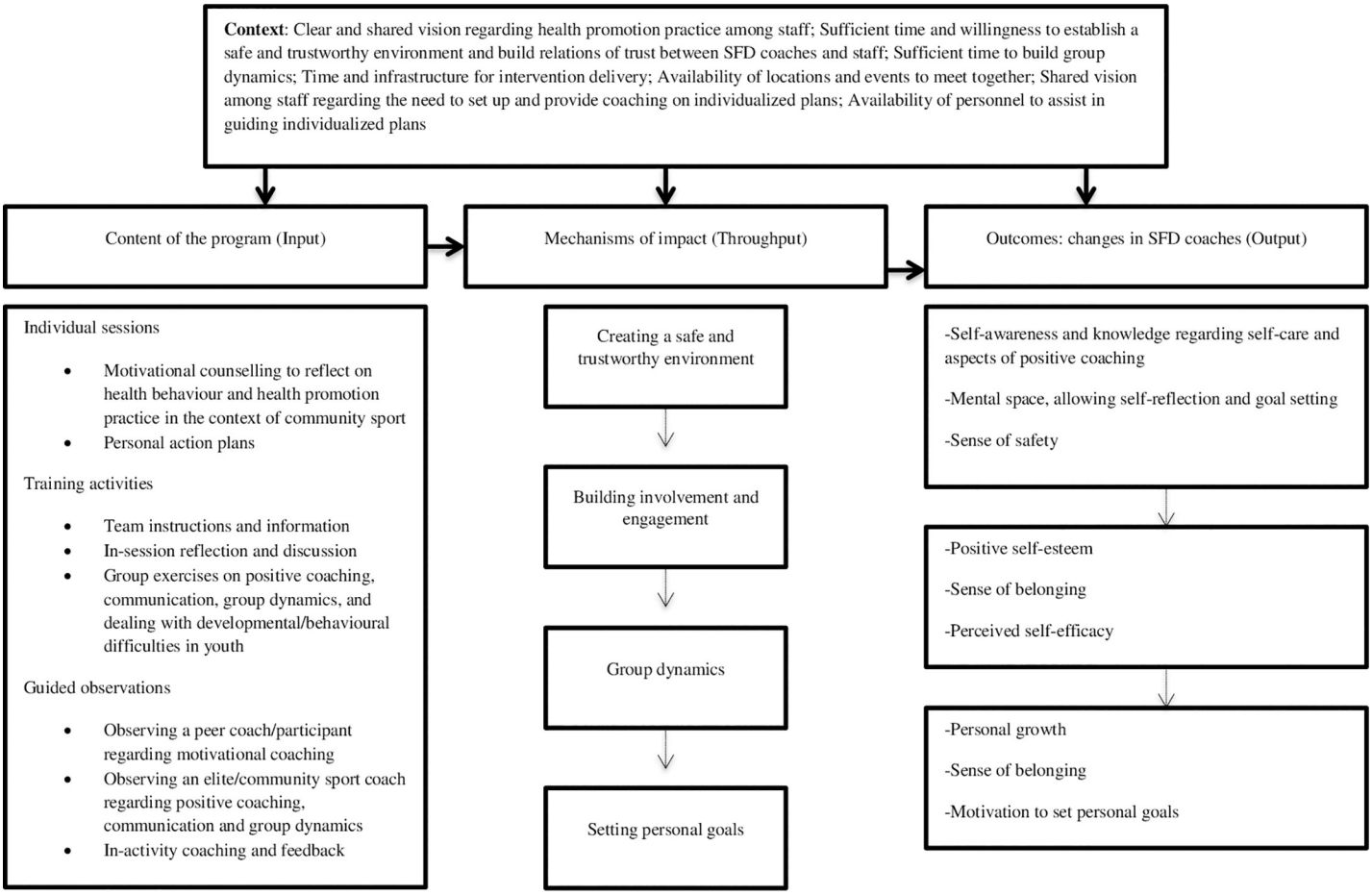

Fig 1. Theory-of-change underlying the training targeting sport-for-development (SFD) coaches to deliver health promotion messages.

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Table 1. Data sources used to assess the feasibility of the training, including sampling details, time frame of data collection, and aspects of feasibility assessed for each data source.

Data source	Sample	Date of data collection	Feasibility aspect assessed				
			Reach	Dose	Fidelity	Acceptability	Theory of Change
Document logs	(Intermediate) reporting between staff (n = 3) and researchers (n = 2)	Mar 2018 –Dec 2018	X	X			
Observations	10 sessions; SFD coaches and staff (n = 5–8)	Mar 2018 –Dec 2018	X	X	X	X	
Interviews	SFD coaches and staff (n = 8)	Feb 2019				X	X
Focus group	SFD staff, researchers, and stakeholders involved in local or national sport and recreational (community) activities, and local policy (n = 8)	Dec 2018					X

SFD, sport-for-development; Reach, the intended audience came into contact with the intervention and how; Dose, the quantity of interventions implemented; Fidelity, the intervention was delivered as intended; Acceptability, the intervention was acceptable to the users; Theory of change, how the delivered intervention produced change and how the context affected the implementation and outcomes.

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working ingredients, and the facilitating and hindering context elements. In addition, the staff were asked about the delivery of the sessions and their perception regarding the engagement of SFD coaches during the intervention. All were given the opportunity to comment on topics they believed were not covered in the intervention. All interviews lasted 30–60 min and were audio recorded.

Focus group. A focus group comprised of staff that participated in the intervention as well as key stakeholders (i.e., local policy makers, representatives of sport and recreational organizations within the region of Bruges, and a representative of an expert organization on community sports in Flanders) (n = 8) was used to explore the theory-of-change of the intervention. The focus group lasted 60–90 min, and was audio recorded. Two researchers (EL and KVDV), both of whom had different content-related and methodological expertise, collected the data. The perception of the focus group members regarding the intervention, their supposed impact and working ingredients, facilitating or hindering context elements, and suggestions for broader dissemination were explored.

Data analysis

The transcripts of the focus group and interview recordings, narrative reports of session observations, and document logs were imported into NVivo version 12 and subjected to thematic analysis [38]. This process involved familiarization with the data (reading and re-reading) and assigning broad thematic codes (EVP). Some of these codes were pre-defined from topics covered by the logic model of the intervention (see Table 1) and the MRC framework for evaluating complex interventions [29]. Researcher triangulation was applied. A second qualitative researcher (KVR) read all the transcripts and performed the coding separately. Coding was discussed and confirmed by the research team (EL, EVP, KVR). Subsequently, the team derived broad, higher order themes from specific codes, and a descriptive summary was written based on recursive engagement with the data. Although the themes derived were mainly data-driven, the logic model and MRC framework were guiding frameworks used to structure the data. The researchers continuously reflected on the way these deductive themes should be integrated with the data. For confirmation, two researchers that had not yet been involved in the analysis, read the synthesized text and interpretations and checked these against the data and quotes (KVDV, SW).

Results

Feasibility

Reach. The intervention program was delivered and assessed within the context of a specific SFD organization. The intervention aims were co-created by researchers and staff, and developed within the community sports practice activities and individual trajectories of SFD coaches. The intention was, therefore, for the intervention to reach all SFD coaches and staff. Despite this intention, only two of the SFD coaches attended all sessions. Reasons for non-completion included: illness, conflicting duties, and personal or psychosocial issues.

Dose. All 10 group sessions were delivered over the course of the intervention period. Group sessions were conducted at 2–3-week intervals, and with a 2-month summer break, which enabled observational activities and individual sessions to be conducted between group sessions. The intervals between sessions, however, tended to vary and become lengthier (maximum 1-month interval) over the course of the intervention period. Despite the initial plan, individual sessions often did not take place between group sessions and after the intervention program. Between group sessions, only four of the eight SFD coaches attended one individual session, instead of the planned two sessions. In addition, none of the coaches attended

individual follow-up sessions. The discrepancies in the planned and attended sessions may be a result of insufficient time during the intervention period or the need to lower the intensity of the intervention as a whole; thus, resulting in the choice to focus primarily on the group sessions.

Fidelity. Overall, the session content was delivered as planned, but we also observed disparities. Activities and exercises were omitted to a minor extent. In most cases, however, task assignments that were scheduled between sessions were not fulfilled. Reasons were explored further during reflection sessions with staff that were organized intermittently across sessions, as well as during interviews with SFD coaches. Changes were made because of reasons related to the intervention setting, such as the flow (e.g., too many absent participants) or organization (e.g., delays in session timing, distractions leading to the early concluding of sessions, logistical issues). Other modifications to the sessions were made by the SFD coaches because of an 'information overload,' because the sessions were too demanding when combined with regular activities, and because of an unfamiliarity with session activities, such as open reflection moments. The take-home assignments were abandoned because the observation coaches needed more time and guided instruction to fulfill these. The SFD coaches did not opt to spend more time on the assignments outside of the group sessions for the same reasons listed previously regarding the low attendance of the individual sessions.

Acceptability. Participants perceived the intervention as important, satisfactory, and educational. The intervention was not perceived as something additional, but rather as something that supported their current work.

> *"(. . .) I also think that it* [the intervention] *did them* [the SFD coaches] *good as they ultimately looked forward to the intervention sessions (. . .). Yes, I felt this was the case and they* [the SFD coaches] *also felt it was important (. . .)* [name of SFD coach] *said: 'I won't take time off then because the sessions are happening then.'"* (Staff member 1)

> *"(. . .) because of it* [the intervention] *being so strongly linked to our own needs and what we also want, it is very nice. Genuinely supportive. We saw it as something supportive instead of extra work."* (Staff member 1)

Overall. The above findings offer a general overview regarding a diversity of indicators related to feasibility. However, it is important to gain an in-depth understanding of why the training was perceived as acceptable, but was not able to reach all coaches, and the reasons for the apparent disparities regarding dose and fidelity. The following section aims to offer further insights to clarify which training processes led to its success, and identify influential contextual variables by exploring the underlying theory-of-change as perceived by coaches, staff, and other stakeholders.

Towards a supposed theory-of-change: Description of perceived mechanisms of impact and influential contextual variables

Creating a safe and trustworthy environment. Our findings highlighted that one of the key training processes involved the extent to which the learning activities were set up within a safe and trustworthy environment. Several strategies were mentioned in this context, such as time adjustments (e.g., organization of breaks and session intervals according to needs and demands) and setting adaptations (e.g., arrangements of tables and chairs). Also, the SFD coaches explicitly praised the openness and willingness of researchers to ask for feedback regarding the session content and methods used. This seemed to beneficially enhance the

sense of self-efficacy of coaches to re-think and adapt health promotion practices and coaching.

"So, I do think that was something for them [the SFD coaches] *to look forward to. Of course, for some, the idea of education and training is difficult, but I do think that, because we approached it in a very accessible way and because they* [the SFD coaches] *gave a lot of input, it did go better after a while."* (Staff member 1)

Besides openness leading to an increased sense of self-efficacy, it also resulted in some difficulties. For example, the non-mandatory nature of take-home assignments between sessions led to few or none of the coaches fulfilling these assignments; and because SFD coaches were not 'obliged' to take part in sessions, only a few took part in the entire series of sessions, with one individual not returning after only a few sessions. The low-threshold approach may also have led to disparities in the session content compared to what was planned beforehand. In cases where already vulnerable coaches had to combine the training with regular job activities, sessions tended to be very easily perceived as work overload and of too high intensity.

"Don't get me wrong, I think what you guys are doing is good, but it's too reasoned and structured. We talk about the emotional tank of youths, but we [the SFD coaches] *also have a tank (. . .)"* (Coach 1)

One staff member called it 'a door swinging both ways'. This member made the parallel with a project targeting at-risk youth and, as such, tried to demonstrate the importance of the unconditional nature of activities, also when targeting coaches.

"The project is in collaboration with [partner name] *and they have received subsidies for about a year or a certain amount of time to–I think–guide young people to help them get work, but for some young people, work isn't really an immediately achievable goal, but they work one step at a time and one of the things that they try and achieve is to motivate sports participation and that's something that is noncommittal, but is an important factor in their trajectory (. . .) With those young people, they want to link the advantages of, for instance, sports participation to certain skills that are also required in their work, for example arriving on time, committing to something (. . .) that's how they want to offer some structure in the daily lives of young people, which in itself is really positive. But on the other hand, we noticed that if it is compulsory, it reminds them too much of school, and that it also works in a rather demotivating manner. Thus, it is a double-edged sword."* (Staff member 1)

Building involvement and engagement. Another main process was the extent to which coaches were actively involved and engaged. More specifically, several strategies were described that were linked to involvement and engagement, such as the use of recognizable material, the use of fun activities in combination with theoretical content, the way in which the session content was delivered (e.g., enthusiasm, pace), and the various natures of session activities (e.g., a visit to another community sport practice).

"They [the SFD coaches] *realize the relevance of it because it is really linked to the stuff they do every day in practice, and it is, therefore, very rewarding for them."* (Staff member 1)

Breaks were also crucial between activities; affording participants opportunities to have mental breaks and thus enable them to further engage with the training.

"I thought it was positive that they [the researchers and/or staff delivering the training] *provided enough intervals during the sessions, alongside the practical and active exercises. It gave the participants a break and was beneficial for aiding concentration. Too many breaks can sometimes be seen as time-consuming, but to me the moments of relaxation led to a more active participation during the sessions and also made it easier to absorb the material that was presented."* (Staff member 2)

SFD coaches viewed their own past experience in community sports (as children and adolescents) as an asset. Active participation and the introduction of their own experiences contributed to the vividness of health promotion practices, coaching attitudes, and skills to be learned.

[Regarding the content of a particular session] *"(. . .) staff members were allowed to include cases regarding recent or past experiences surrounding the theme of conflict (. . .) they gave very nice examples and brought in theory and you could talk about it with your own experiences. It was also valuable for the members of staff to be able to make the connection, yes, and to express the theory in a very informal manner (. . .)."* (Staff member 1)

Also, active participation and learning through experience increased the awareness of the SFD coaches that they are important role models for at-risk youth, which influenced them to think and act differently regarding health topics. This shift in thinking was clearly observed by staff, and was also determined to be an important mediating outcome and powerful lever to potentially affect change among at-risk youth.

"Yeah, I think a general idea of also deepening awareness, like 'ok it's not just about finding a fun game and explaining it, but my role is actually bigger. I am important to the young people, to my group, my attitude is important.' Being aware of the smaller things that can make the difference." (Staff member 1)

[Regarding coaches acting as role models] *"(. . .) You should not underestimate it, I think, for example one of our colleagues isn't the most sporty and he has been made responsible for (. . .)* [name of a project] *but he himself used to be in the same situation and that is actually why he understands it very well and, in a way, it makes him a good role model (. . .)."* (Staff member 2)

At the same time, however, a discrepancy arose between having to act as a role model and feeling able to be one. For example, when the behavior of current coaches was in contradiction with the behavior to be promoted among youth (e.g., smoking vs. preventing youth from smoking). This discrepancy highlights the possibility that personal vulnerabilities can lead to coaches having uncertainties or doubts of whether they will be able to live up to being a role model; thus possibly hampering the link between learning through training and a shift in thinking or the awareness of being a role model for at-risk youth.

"If you know that you don't always do a good job yourself and then you have to try and convey it to young people or to the participants, I think it's tricky. That might be my character, I do smoke now, eh." (Coach 1)

"I think it was also confronting for some people. Like because they also thought 'ok yeah, I'm a role model again and do I live up to being a role model or not,' and that some of them were occupied with doing that." (Staff member 1)

Several other outcomes that were enumerated and linked to building involvement and engagement included an increased awareness, an improved knowledgebase, and a stronger motivation regarding (new) health promotion practices. One example is the learning of new concepts that gave coaches the language to discuss and explain the things that they were already doing (e.g., coaches already knew the importance of not putting too many demands on youths, but the concept of 'an emotional tank' clarified the concept further, and gave them the language needed to discuss these issues with youths as well as with staff and fellow coaches), and contributed to the motivation of coaches to continue their coaching, for the sake of the health and well-being of youths.

"I actually always keep track of the emotional tank. I give a lot of compliments because it helps. When something is fun, then they can handle it better. It helps. If you only say something when they are doing something bad, but never when they are doing something right, then the children's reservoirs are emptied." (Coach 2)

Also, engagement was perceived to result in increased self-monitoring of current coaching practices. As a result, some SFD coaches specifically mentioned that they had become aware of what they had already done and achieved, leading to increases in overall self-efficacy.

"Yes, in general I found that it was a good refresher. Also, with regard to the activities and games we did, we thought 'Aah, we can also do that with the guys.' In fact, every element was a refresher of sorts to me, like 'Ah yes, I hadn't thought of that game for a while, we can also do that and apply it.'" (Coach 1)

"But I do think it [their confidence] *progressed with an upward trend. Session after session they gained more trust and they could also apply it more in practice, especially after the last 4–5 sessions, which involved positive coaching."* (Staff member 3)

Engagement and involvement also appeared to act as levers for the creation of opportunities to actively practice and rehearse various new skills regarding health promotion practice and coaching. These skill-building moments, deemed to increase the sense of self-efficacy and skills among SFD coaches, were even considered to be necessary elements for the sustained effects of the training.

"(. . .) a lot of role playing with a colleague enabled me to know how one can react to certain situations. (. . .) at the beginning, I sometimes didn't know how I needed to react. Now I'm going to do it more easily because I have already done it once." (Coach 2)

However, staff also mentioned variables external to the training that seemed to hamper its implementation or impact. These were related to the characteristics of coaches as being a vulnerable group themselves, such as suffering from low levels of self-esteem and having (a history of) (mental) health problems. In addition, language problems were apparent in one coach and appeared to hamper their training implementation.

"(. . .) some people don't have a lot of confidence and then you notice that if they are confronted with it [their lack of confidence], *that they do (. . .) you can also say that nobody fits the mold, but that doesn't always work. (. . .) I think that, that may also play a role. Certainly, if at that moment you are also struggling with yourself, then is a theme that is close to you (. . .) it is on your mind."* (Staff member 1)

Group dynamics and relations. In general, several strategies were undertaken during the training with the aim of promoting positive group dynamics, such as the use of games that stimulate team involvement, group communication, and skills. Coaches and staff recognized the benefits of promoting group dynamics for the training to be successful; a process that was easily established within the studied context, in which everyone knew each other adequately well beforehand.

"I thought there was already a reasonably good group dynamic here, but those sessions have also helped that. It is also just fun that we take the afternoon off together to follow those sessions, with all of those game elements in between; it made for a good group dynamic." (Staff member 3)

In addition, the staff highly appreciated the inviting attitude of researchers and tutors regarding the co-creation and co-delivery of the intervention. This process resulted in the growth of constructive bonds and relationships between the researchers and the staff of the particular SFD organization, and seemed to contribute to a positive learning environment. The resulting learning effects, as mentioned by staff, was that such co-working opportunities resulted in deepened reflection regarding their current practices and ways to do better.

"(. . .) you think like, yes they [the SFD coaches] *are not going to like that very much, they're going to find it too school-like. You kind of have to find the courage to handle things in a different way, which is apparently liked and appreciated, and we can also learn a lot from it."* (Staff member 1)

Personal health monitoring. Overall, participants acknowledged the benefits of getting health information and advice on goal setting with the aim of improving their behavior. This appeared to raise awareness regarding the significance of health improvement, as well as the (temporary) increase in health-monitoring activities. The participants also realized that they had to engage more in planning health behavior actions. Both the SFD coaches and staff agreed that the reasons for this was the limited time (within the time frame of the training) for behavioral changes to take place, and no (or safe) opportunities to discuss personal goals within groups.

"I think that there should be more guidance for that [i.e., changing of their own health behavior]. *The seed has been planted but I guess that more is needed to really get started. But the theme was tabled."* (Staff member 2)

"I have also tried to cut down [i.e., smoking] *but after a week the session was in the back of my mind and then I started again."* (Coach 2)

Fostering discussion and reflection. The data revealed the *fostering of discussion and reflection on current functioning* to be one of the most important processes related to the training outcomes, as mentioned by the coaches and staff during the observations and interviews. Staff and coaches also mentioned the importance of reflection being well guided (e.g., through imagery, case-examples, via step-wise instructions, etc.). Unguided reflection (e.g., open questions) was often perceived as being intrusive and threatening by both coaches and staff.

An important contextual variable that facilitated the success of reflection was the background of coaches themselves possessing relevant practice-based knowledge. This made reflection specific, which contributed to this process being a valuable learning tool. Another important condition was the timing of reflection, which was related to the creation of a safe

environment and bonds of trust. In addition, reflection in the absence of safety and trust appeared to raise the threshold regarding engagement and led coaches to being less involved and less responsive during sessions.

Under suitable conditions, discussion and reflection appeared to raise awareness and deepen the understanding of health promotion practices and coaching. Moreover, discussion and reflection seemed to provide coaches with the confidence and skills needed to communicate with at-risk youth regarding health promotion topics (e.g., about the benefits of regular physical activity, healthy eating, etc.) and to implement new health promotion actions in practice (e.g., providing healthy snacks during sport activities). Discussion and reflection also led staff to look beyond their expectations of the abilities of SFD coaches. Openness was created by discussing values and goals, and the staff expressed their urge to incorporate deepened reflection in their current practice to provide a facilitative context to strengthen the abilities of coaches to reach these goals.

> *"(. . .) also with the team evaluation, I noticed that it went more in depth, that it doesn't just refer to 'it's good'. (. . .) it's not just about numbers and reach but also about the relationship with those guys* [youth]*."* (Staff member 1)

> *"They* [the coaches] *were also thinking about who they were going to put together in a group and who not. And now thinking about it, there was also a coach who said 'hmm, that game in that neighborhood, we're not going to do that because of what we saw last week, that if we play that game in that neighborhood then we are actually making everyone feel uneasy."* (Staff member 2)

Discussion

In the present study, we explored the feasibility of a training program (also referred to as an intervention) developed to increase the health awareness and skills among SFD coaches to enable them to become viable deliverers of health prevention messages to at-risk youth. We aimed to clarify how the training worked (mechanisms of impact) and which elements external to the training within the context of SFD led to its supposed effects (context factors), by conducting a process evaluation through a realist lens. A pre-developed program theory was used as the foundation for this study [34]. This theory has been further tested and refined in other SFD contexts [35]. It represents the effects of SFD programs on health outcomes in at-risk populations through mechanisms of experiential learning among participants and incremental responsibility taking and reflexivity. The mechanisms described in this program theory were successfully transferred provided that participants felt safe, were stimulated to reflect about their behavior, and were enabled to be agentic. This realist-informed process evaluation sought to refine a specific key element within the theory, i.e., the role of the coach. Given the need for specialized training of SFD coaches for the installation of the above effects and to efficiently spread health promotion messages, we explored how and when training programs with this purpose would be effective for coaches.

Overall, our findings showed that the training was suitable and well accepted by coaches who expressed positive responses to the training, i.e., it increased their awareness of health and their actions as role models for at-risk youth. This overall finding has great importance. One of the key change mechanisms of improved health among at-risk youth using sports as a lever is their observation and learning through what is respected by others and in particular with regards to what the coaches are doing [34, 35]. This process of 'vicarious learning' is most profoundly described in the Social Cognitive Theory (SCT) of Bandura [39].

Based on SCT, several pathways of learning could be presumed. The first is the most direct pathway: coaches may give information and instructions on how to change behavior. For example, a coach may explain the negative effects of smoking on overall health. The second pathway involves the health behavior of the coaches, which may motivate youth to behave in a similar way because of the benefits they perceive or hear the coaches express. For example, a coach expressing feeling fitter after having quit smoking may motivate youth to also quit smoking. Thirdly, coaches may serve as a social prompt for CYP to perform healthy behavior amongst different alternatives. For example, a coach may set an example by drinking water and eating fruit during sport activities. Despite the pathways differing, they are all deemed important. While the first two pathways may require more intentional, rational thinking (i.e., by gaining knowledge and changing attitudes), the latter pathway is likely to occur in a more automatic, unintentional manner. Within the Elaboration Likelihood Model of attitude change of Petty and Cacioppo [40], this difference is referred to as the central and peripheral route. The central route consists of thoughtful consideration of the arguments (ideas or content) of the message. The peripheral route occurs when the listener decides whether to agree with the message based on other cues, such as the bond or perceived power of the person delivering the message. Research suggests, albeit mostly in college students, that a few variables may influence the extent to which people are more likely to be convinced by contextual cues rather than by the message itself. Examples include not being motivated by the content of the message (e.g., having no interest or seeing no benefit), not being able to think about the message (e.g., because of being distracted by other things), or having to think about a message that is difficult to comprehend [41, 42]. Although it has not yet been investigated, at-risk youth are likely to be more sensitive to health messages delivered by coaches because of their status, trustworthiness, and perceived power, than through the content of the message itself. Therefore, the social prompting of health messages may seem to be an important route of transfer between coaches and at-risk youth, and is thus an assumption worthy of further investigation.

It is important to note here that, based on our findings, the training did not easily facilitate changes in the behavior of coaches, which is an important prerequisite for social prompts to occur. Coaches did not report changes in setting personal health goals themselves nor increased efforts towards accomplishing health goals or adopting healthy behavior. Those who reported change (e.g., a few coaches mentioned changes in their dietary intake or smoking behavior) mentioned the diminishing of the training effects on their behavior after a while. These findings were consistent with the staff observations that stressed that the training did not lead to observable, long lasting changes in health behavior despite challenging the coaches to question their health status and risky health behavior. However, these findings were not entirely remarkable and were consistent with theoretical ideas on behavior change. Process theories on behavior change, for example, delineate behavior change as a time-consuming endeavor that proceeds through different 'stages' [43, 44]. These stages differ between theories, but there are also communalities among theories. For example, it is commonly theorized that individuals first proceed through a stage of awareness and knowledge building before they express an intention to change their behavior, and for the better. In parallel, the training may ultimately be effective in changing the awareness and knowledge of participants, but for it to have a lasting impact on the behavior of coaches, more actions may be needed. Here, we advocate more intense individualized guidance and feedback of coaches, which could not be obtained from a group-based format. In addition, the time frame may need to be lengthened, so that long-term follow-ups are possible, and the opportunities to transfer skills to real-life settings are increased.

Performing the process evaluation through a realist lens provided us with in-depth insights into the inner workings of the training, and the contextual boundaries that have to be set for

the mechanisms of impact to result in the preferred outcome. As such, we gained in-depth knowledge on the supposed successes or failures of training outcomes as perceived by coaches, staff, and other stakeholders. Beyond the 'classic' process evaluation, realist thinking furthers our insights regarding the hidden causal forces behind the observed patterns or changes in those patterns. In a realist evaluation, this is achieved through retroduction, i.e., by looking back at observed patterns to determine what processes were responsible for creating them [28]. Here, we used a realist-informed approach because we aimed to determine the context conditions needed to generate the training mechanisms that led to some of the observed training outcomes. The implementation of the training was, however, far from perfect, as it did not manage to reach all SFD coaches, and one SFD coach even discontinued the involvement in the program. The context of SFD can be challenging since most coaches come from vulnerable situations themselves, and who are searching for prospects of better working conditions and life satisfaction. Our data indeed highlighted that low levels of self-esteem, mental health problems that are often a result of precarious family situations, and educational issues in SFD coaches could significantly hamper intervention delivery and impact. Below, we elaborate in detail the theory-of-change underlying the training, regarding its inner mechanisms and how they are generated within the particular SFD setting investigated in this study.

The first finding relates to the type of environment that was created at the start of the training and continued throughout the program, i.e., the establishment of a safe and trustworthy environment for participation in the intervention and for the personal development of SFD coaches. Our study showed that a sense of safety reduced the doubts and insecurities of coaches, and produced an environment that was conducive to learning and which did not punish individuals for not participating within the training or when missing one or more training components. This idea of 'psychological safety' is consistent with other scholarly publications on the conditions that need to be met for people to be motivated to perform, i.e., to learn and participate in the training in this respect. Based on Self-Determination Theory (SDT) [45], these studies highlighted that the creation of a social context that motivates participants or athletes to the degree in which they feel autonomous and sufficiently free, positively affects their level of intrinsic motivation and enjoyment (e.g., [46]). Indeed, the friendly attitude and openness that both the SFD coaches and staff expressed towards intervention deliverers was related to their increased awareness of the need to discuss the topics and intrinsic motivation to proceed with the intervention. However, this appears to be a precarious situation. It requires amicable, supportive, and inclusive but also professional relations between SFD coaches and staff as well as with intervention deliverers. Excessive professionalism (e.g., requiring the completion of assignments, strictness regarding punctuality, etc.) may create the perception of an unsafe environment and hamper the confidence of coaches to learn.

A second finding relates to the promotion of involvement and engagement. The use of a variety of activities and fun activities, vivid material, and an approach aimed at developing critical self-reflection and self-development appeared to be crucial. This creation of a sense of critical self-reflection appeared to increase health awareness among coaches and support them in their acting as role models. With regards to the staff, reflection instilled a sense of urgency for more than just the development of sport technical skills and to prepare SFD coaches for the delivery of health prevention messages as well as to, ultimately, become well-equipped health professionals with increased chances of better work prospects outside the particular SFD context. There was also a recognition that this requires training and guidance from another perspective, i.e., one that takes into account continuous reflection and individual guidance. Ultimately, among both coaches and staff, it was noticeable that such an increased awareness set the foundation for self-efficacy to grow, and confidence was expressed that training would be successful in guiding at-risk youths towards personal health agency. However, this depends

on whether the involvement and engagement does not increase the personal vulnerabilities of participants, such as uncertainties or doubts if one is able to live up to being a role model, which are frequently present in coaches due to life history events or precarious living situations, or both. When vulnerability is increased, it hampers the learning through training and shifts in thinking or awareness of being a role model for at-risk youths.

A parallel can be drawn with the mentoring theory of Pawson [47], which illustrates that different mentoring processes can lead to optimal personal development. Most notable in this respect is the process of 'direction setting,' which closely resembles the promotion of involvement and engagement, as observed in our data. In this theory, direction setting is described as a cognitive component that entails the promotion of self-reflection via discussion of alternatives or the setting up of individual learning plans, and a reconsideration of values, loyalties, and ambitions. Also, according to this theory, the element of direction setting combined with the process of 'befriending or creating bonds of trust,' and 'coaching or the acquisition of skills,' leads to successful mentoring programs [47].

Befriending relates to another main working process in our data: *group dynamics and relations*. We found that meaningful bonds were developed and intensified, and that coaches and staff continued to build confidence to learn more. Especially, the creation of an informal context of interaction during the intervention (e.g., talking freely, being listened to, and group building activities) appeared to provide opportunities for coaches and staff to build and intensify meaningful and respectful relationships, which led to the SFD coaches having improved confidence and being able to observe that their actions (however small they were) were able to have an impact. To play a role in a group, to be part of a greater whole, and to be connected with others gives people the feeling they have the right to be. It increases self-confidence and motivation to change one's behavior in the long run. According to SDT [45], a sense of relatedness is indeed one of three sources, besides and in relation to competence and autonomy, through which motivation can thrive.

Successful mentoring also involves coaching or assistance in acquiring new skills [47]. This element is significantly related to the process of discussion and reflection. When the right conditions were in place, such as the use of the wealth of vivid experiences of coaches and the timing of reflection, this process appeared to raise awareness and deepen the understanding of health promotion practices and coaching. Moreover, discussion and reflection seemed to provide coaches with the confidence and skills needed to communicate health promotion topics to at-risk youth (e.g., regarding the benefits of regular physical activity, healthy eating, etc.) and to implement new health promotion actions (e.g., providing healthy snacks during sport activities). Ideally, we would have wanted to have observed coaches changing their own health behavior and live model lifestyles. As previously described, such changes would make them more effective deliverers of health prevention messages, and would increase the potential for behavior change among at-risk youth in the long term. In addition, contextual variables have to be present during the processes to produce these outcomes, e.g., having enough time, and to successfully create safe opportunities to discuss personal progress and goals. The latter element was not developed within the current training. More is needed to translate motivation into personal action plans and behavior change [48, 49], e.g., assisting individuals in setting realistic goals, planning towards these goals, and helping to conquer the obstacles that hinder them in achieving their goals (e.g., [50, 51]).

Strengths and limitations

First, a case study approach was central to this study and allowed for an in-depth analysis of the theory-of-change underlying the roles of SFD coaches in using sport as a vehicle for

improving the health of at-risk youth. Several mechanisms were identified that were believed to affect the attitudes and behaviors of coaches, which further triggered health promotion practice in at-risk youth. We followed a realist theory perspective [28], assuming that interventions involve not one, but several theories or mechanisms that lead to its effects, under specific circumstances. The main processes observed appeared to be essential for the successful training of the coaches, however, precaution is warranted regarding the impacts of such training. These impacts may be limited by the presence of contextual variables, such as the level of (health) literacy, mental health, and the living conditions of coaches. As observed in the present study, context may also facilitate training among coaches and staff with already established bonds of trust. This study offers insights into measures to be taken when implementing and evaluating similar training programs elsewhere. Evidently, and not explored within this study, structural influential factors may also impact the success or failure of SFD for health. Examples include (local) policy decisions, or macroeconomic factors regarding housing or prevention budgets. Also, certain groups may be more prone to encounter negative peer pressure, or may live in or have encountered precarious family situations that negatively impact their agency to take control of their health and life. Recent theories have emphasized the influence of such environmental influential factors on the motivation of certain individuals to perform health behavior, and for behavior change [52]. Future research is needed to identify these factors within the context of SFD, as well as their interaction with more proximate context factors and individual agentic determinants.

Second, we used a systematic approach to design and conduct our process evaluation, using the MRC guide [29]. Hearing the views of multiple stakeholders and the use of different data collection methods (observations, interviews, focus group, self-reports) furthered our understanding of the complexity of the inner workings of the SFD intervention. Some of the interviews with SFD coaches were difficult, wherein some struggled to elaborate on questions regarding supposed mechanisms, context factors, and outcomes. We used triangulation to solve this issue, combining multiple observers and methods. We are, therefore, confident that our results are valid and reliable.

Third, the set-up of this process evaluation was developed in close collaboration with staff and other local stakeholders and is, thus, a strength. Spaaij et al. [53] stated that in situations where there is a high degree of participation, mutual learning is established and obstacles of cultural boundaries are lifted. However, measurement instruments, such as observation and interview guides, were developed independent from stakeholders. A crucial factor in this situation was time. Nevertheless, it would be worthwhile to co-construct evaluation timeframes and measures, leaving the control of monitoring and evaluation to participants, and thus increasing the chance of successful embedding of these methods in practice.

Fourth, two researchers (KVDV, EL), who observed the meetings and interviewed the participants, also functioned as tutors. We considered this to be a strength because a meaningful relationship had been developed with the SFD coaches, thus contributing to the vividness of experiences told during the interviews. However, this engagement in quality improvement activities may also compromise the external validity of the evaluation. We tried to solve this issue as much as possible, with a third researcher acting as a passive observer who did not intervene and did not feed findings back to the other researchers, thus minimizing the effects of this possible limitation.

Fifth, we conducted a process evaluation and were interested in the feasibility and theory-of-change underlying the feasibility, i.e., processes at work that impacted training outcomes, under specific circumstances. We used a qualitative research design to gain in-depth knowledge regarding the feasibility and, in particular, the experiences surrounding the training, underlying processes, and the complex links with outcomes and associated contextual

variables. Quantitative or mixed-method designs can be used in future studies to test these pre-hypothesized pathways of impact, and contextual moderators. In future studies, data should be collected at multiple time points to capture the effects of the training over time.

Conclusion

A realist-informed process evaluation was deemed the most suitable approach to determine the feasibility of training to increase the awareness and ability of coaches to transfer health prevention messages to at-risk youth. We used the MRC guidelines as a framework for our analysis. We were also interested in clarifying the underlying mechanisms of the impact and context factors that led to the supposed training effects. A case study was undertaken allowing the collection of views from multiple stakeholders and from a variety of sources. A safe learning environment seemed to contribute to a 'right mind-set,' which facilitated the learning process among peers and tutors with whom the coaches felt connected. An increased health awareness and sense of responsibility to act as a role model for at-risk youth were among the main outcomes, and was reached through an increase in self-confidence, and an improved sense of critical self-reflection and self-development. These outcomes were triggered through the above-described processes under certain conditions. In addition, several variables, such as a precarious life history or living conditions, mental health issues, or low educational skills, may hamper the processes and outcomes. This study offers valuable insights into the processes and appropriate circumstances of SFD training that may prepare coaches to effectively deliver health prevention messages. This may inform intervention developers and policy makers to make more sensitive and suitable choices in the setting up and implementation of health prevention programs through sports using coaches as deliverers of those messages. Additionally, programs such as the one used in the present study are very unlikely to directly impact health behavior, but rather set the stage for further individualized actions to be undertaken. Therefore, programs should be assessed and monitored using the intermediate outcomes most at stake. This includes motivation, and even more proximate indicators, such as awareness, self-efficacy, sense of self-reflection, and a sense of responsibility as good candidates.

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Study 3: Testing theory: realist evaluation of a sport-plus practice aiming for improved social inclusion

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To use, as a criterion of judgment, the guts of the phenomenon – what is going on – is better than to use any logical or formal criterion. If nevertheless I have decided to write a book on the logic of theory construction, it is because people sometimes do worse empirical work than they might because they are confused by logical and philosophical difficulties. People do actually fail to do the sensible thing because they think it implies some "assumption" that they are unwilling to make, or because they think a particular form of argument is associated logically with some unacceptable general worldview. There is a good deal of nonsense talked in the social sciences about "assumptions", "approaches", "sui generis", "operational definition," and the like. Mostly this nonsense does not interfere with the work of the discipline, but this is because exceptional men trust their intuition rather than their logical and philosophical prejudices.

— Arthur L. Stinchcombe, *Constructing social theories (1968)*

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RESEARCH Open Access

"To mean something to someone": sport-for-development as a lever for social inclusion

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Abstract

Background: Socially excluded groups are at higher risk of low well-being and poor health. The link between social exclusion and health inequities is complex, and not being involved in society makes it difficult to be reached by standard prevention programs. Sport-for-development (SFD) programs are low-threshold and may be promising settings for inclusive actions. We explore the underlying mechanisms through which SFD might have an impact on social inclusion and examine the necessary conditions that work as a catalyst for these underlying mechanisms.

Methods: A realist evaluation approach was adopted. A non-profit SFD organization in a middle-large city in Flanders, Belgium, formed the setting for a single case study. Document analysis, participatory observations, interviews, and a focus group, were sources for identifying necessary context elements and essential mechanisms through which SFD could promote its participants' health and wellbeing.

Results: Among the most efficient mechanisms triggered by the Foundation's activities are learning by fun, connecting with peers (of whom some serve as role model) and engaging as a volunteer with some responsibilities. Building trust in oneself and in others is a necessary process throughout all these mechanisms. Facilitating context factors include the activities' accessibility and unconditional approach (creating a sense of safety), the popularity of the first division football team the Foundation is associated with (leading to a sense of belonging), a steady network of social partners and a strongly positive relationship with the SFD coach(es).

Conclusions: Our findings demonstrate that a SFD setting may be a vehicle for engaging hard-to-reach population groups. It enhances socially vulnerable persons' sense of competence and connectedness, leading to opportunities to improve life and work skills transferrable outside SFD settings. Based on these findings, suggestions are provided that may enhance the field and help to develop feasible (policy-led) interventions designed to promote social inclusion.

Keywords: Sport-for-development, Social inclusion, Self-efficacy, Realist evaluation

Background

Social exclusion can be defined as the "lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society" [1]. It is inherently multi-causal and relational in nature, and leads among others to loss of status, autonomy, self-esteem, and expectations [2]. Socially excluded often find themselves in a downward spiral: inadequate access to food, housing and other basic resources, lead to adversity and poor health [3–5], further complicating the access to services that enhance the ability of the socially excluded to cope with their situation (e.g. education, sport and preventive health services, healthy life and work conditions…) [6]. Socially excluded youth, for example, is at higher risk of (chronic) health complaints, mental health problems and adult morbidity and mortality [5, 7–9]. Sport has the potential to increase individuals' resilience, here defined as "the ability to adapt to adversity or to cope" or as "a reduced vulnerability for the adverse outcomes of stress or dysfunction" [10, 11]. A

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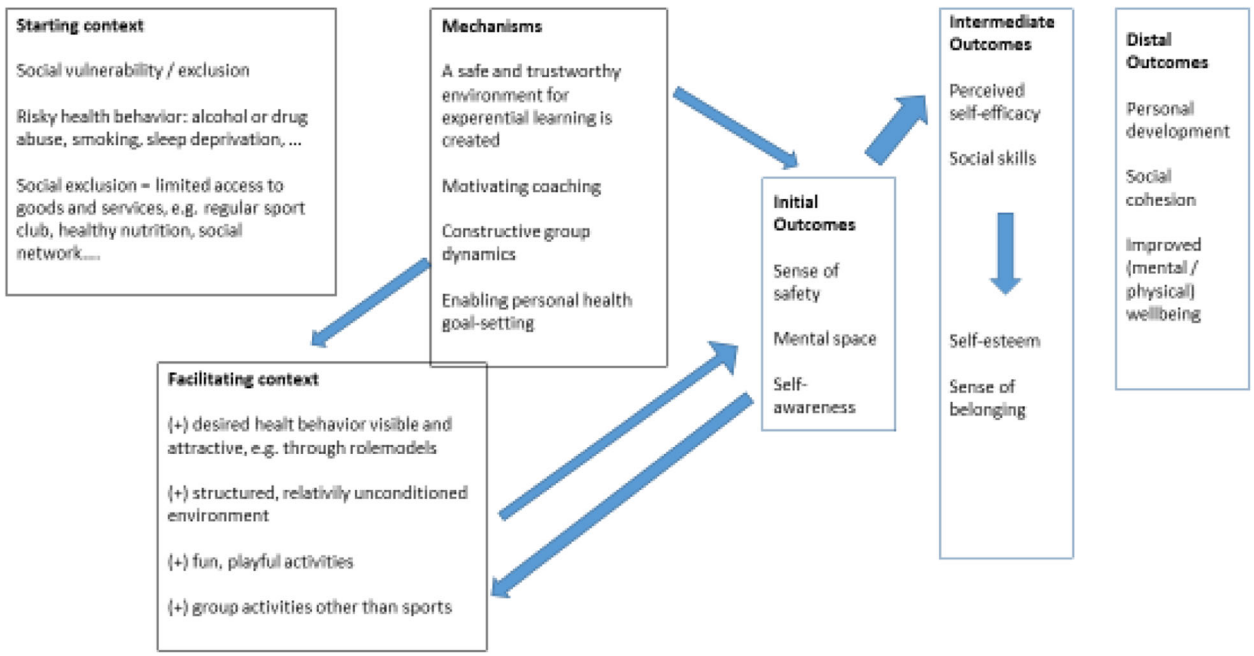
systematic review reported 40 different psychological and social benefits of participation in sport, with as most common positive outcomes fewer depressive symptoms, higher self-esteem, better social skills, higher confidence and higher competence amongst sport participants than non-sport participants [12]. Moreover, a healthy lifestyle including physical exercise is effective in preventing chronic diseases at a later age, especially when starting in childhood [13–16]. However, the abundant positive outcomes of sport participation need to be put in context. Regular sport clubs are not accessible to all. Especially for those at risk of social exclusion, participation in sport and leisure activities is limited, due to financial, geographical and socio-cultural barriers [17–19]. Yet, precisely at-risk persons could benefit most from both the health improving and resilience-enhancing effect of sport), for they encounter more health related problems [5, 8, 9]. Sport-for-Development (SFD) is a potential answer to the catch-22 of those needing it most not being able to access sport and benefit from it. SFD can be defined as "the use of sport to exert a positive influence on public health, the socialization of children, youths and adults, the social inclusion of the disadvantaged, the economic development of regions and states, and on fostering of intercultural exchange and conflict resolution" [20]. Socially vulnerable groups can be reached more easily by such locally organized, accessible initiatives in comparison to standard sport clubs, because (geographic, financial, cultural and social) barriers are lifted and because participants are actively recruited [21, 22]. SFD has increasingly been linked to positive outcomes such as personal development and enhanced resilience [22–33]. These may be important intermediate outcomes, and may further enhance chances on employment and other opportunities for social inclusion. Evidence has not only to be gathered regarding the outcomes of SFD with the aim of social inclusion, but also under which circumstances and how SFD may lead to its successes. Insight into to these practices, and, more specifically, what works for whom in which circumstances may provide valuable information for the design of (policy-led) interventions designed to combat social exclusion. The current study is part of a four-year (2016–2019) transdisciplinary research project – CATCH (*Community Sports for AT-risk youth: innovative strategies for promoting personal development, health and social CoHesion*) - aimed at the exploration of how and when low-threshold sport practices have their effect in promoting social inclusion. In the first phase of the CATCH research project, a program theory (PT) was developed on how and under which conditions low threshold sport practices may be a vehicle for social inclusion of socially vulnerable populations. This theory (cf. Table 1) was developed based on a multiple case study and insights from literature review.

In the current study, we aim to test and refine this theory, through an evaluation of a middle-large SFD organization in Flanders, Belgium.

Studied case

We evaluated activities of the KAA Gent Foundation (further referred to as 'the Foundation'), the product of a public-private partnership between the city of Ghent and its first division football club KAA Gent which is located in Ghent, a middle-sized city in the northern part of Belgium

Table 1. CATCH theory on SFD as lever for health and social inclusion



(Flanders), at the edge of one of Flanders most deprived neighborhoods [34]. The Foundation embodies the football club's social return to society in the form of activities generating social cohesion, health and inclusion, especially for vulnerable populations in Ghent and its surroundings [35]. In 2018, 566 persons participated in one of the 743 social emancipatory and sportive activities (25,409 contact hours with target population). The football teams GB and GP counted on average 15 participants in every training.

All community work of the Foundation is organized alongside their policy model, referred to as *#COBW* (Come on Blue White, referring to the colors of the club) and explained in Table 2.

The KAA Gent Foundation case study aims at examining 1) which conditions are put forward by the SFD organization in promoting social inclusion and appear to be necessary elements to have its effects; and 2) what mechanisms are found to exist and are perceived of as essential working elements to have an impact within the context of this particular SFD organization.

Methods

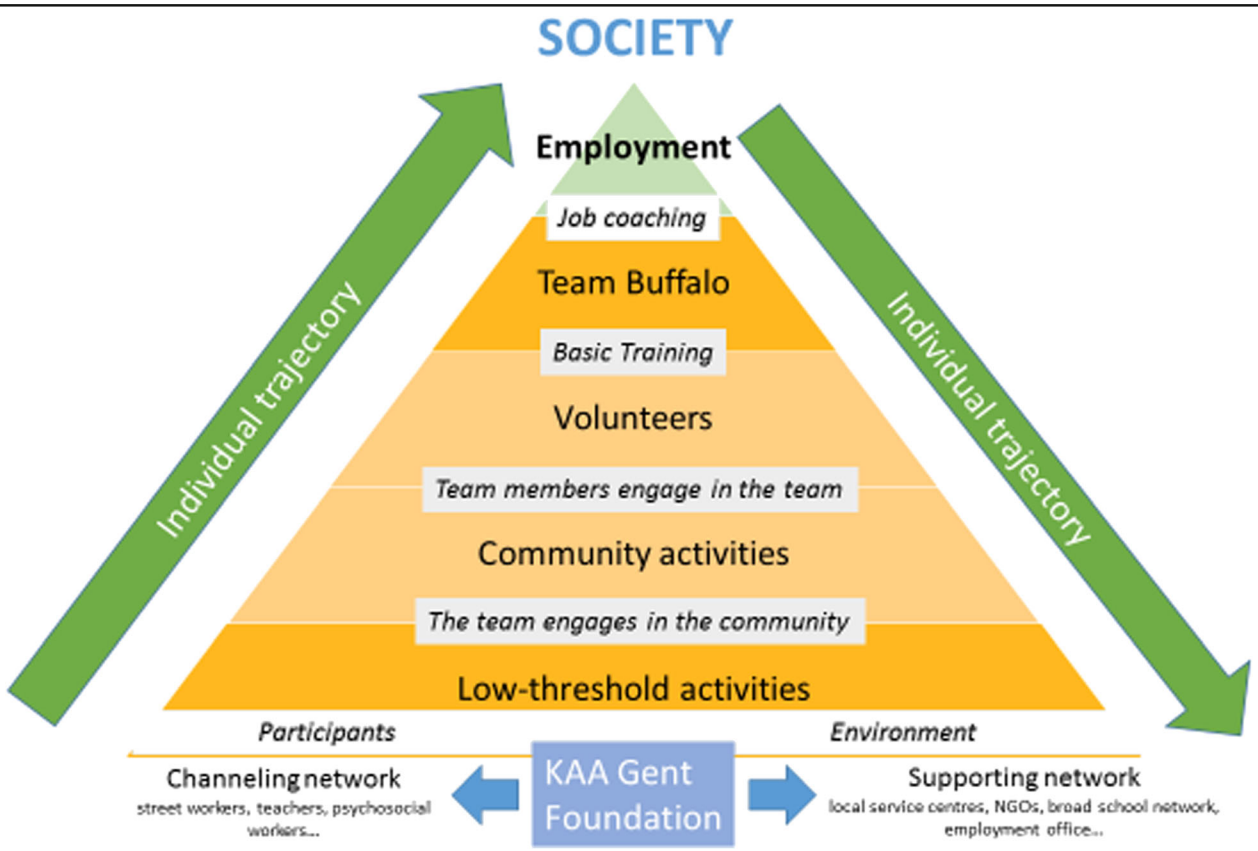
Design of the evaluation study

A realist evaluation (RE) was implemented [34], which aims at identifying the hidden causal forces behind empirically observable patterns or changes in those patterns [37]. This is done through 'retroduction': going back from observed patterns and looking below the surface for what might have produced them [38, 39]. Realist thinking thus starts from the empirical outcome, tracing processes backwards to study the question 'What works for whom, why, and under which circumstances?' [36] through identification of the key mechanisms (M), influential context factors (C) and expected outcomes (O). Context-Mechanism-Outcome (CMO) configurations then serve as a heuristic for theory development, clarifying what preceded the visible outcome. The output of a realist evaluation is a program theory (PT) or, as is the case in this study, a refined PT (that builds further / tests an already existing PT).

Data collection & analysis

The case study of the KAA Gent Foundation took place between January and December 2018. During that time, a number of qualitative data were collected through, respectively, document analysis, observations of group activities, in-depth interviews and a focus group discussion (FGD). An overview of the data sources can be found in Additional file 1.

Table 2. #COBW Policy model KAA Gent Foundation



First, the main policy documents and reports of the foundation have been studied, of which the most important appeared to be the Foundation's Strategic Policy Plan 2017–2020, in which the Foundation's policy model is explained (cf. Table 2). Document analysis taking place before the interviews and FGD allowed the researchers to identify an implicit program theory (cf. Results - Fig. 1) underlying the Foundation's policy model, and to consequently structure the interviews and FGD as such that the supposed mechanisms described in the underlying PT could be tested (i.e. confirmed, denied or adapted by interviewees). Other documents analyzed were: the Foundation's two latest year reports (2017, 2018), its subvention policy showing how social return is required for subventions given to local football clubs, some chats of closed Facebook groups, the curriculum of the Team Buffalo socio-educative trainings and updates on the Foundation's website. Document analysis mainly increased the understanding of how the Foundation defines 'social inclusion' into a couple of proxy indicators and provided insight in how the Foundation communicates with participants and stakeholders.

From May to July 2018, one to two researchers observed training activities (in a participatory way whenever possible), team events and tournaments, of which they took field notes in a semi-structured observation report, focusing on the identification of key mechanisms (M) and context (C) factors. In the data analysis, these elements were counter-checked with context, mechanisms and outcomes identified through interviews and FGD. The following subprojects were observed: Buffalo Dance Academy: a dance school for children aged 12–15 years in a deprived neighborhood near the stadium; Buffalo League: a series of community-based activities with children (2–12 years) from schools in the same deprived neighborhood; Geestige Buffalo's (*Funny Buffalos*, further referred to as GB): a mixed (male + female) football team for adults (18+ years) with psychosocial and/or psychiatric difficulties; Gantoise Plantrekkers (*'Astutes from Ghent'*, further referred to as GP): a separate male / female football team for socially deprived adults (18+ years), e.g. homeless or people struggling with addiction.

During the participatory observations, relations of trust have been established with participants, enabling in-depth interviews (October–November 2018) with

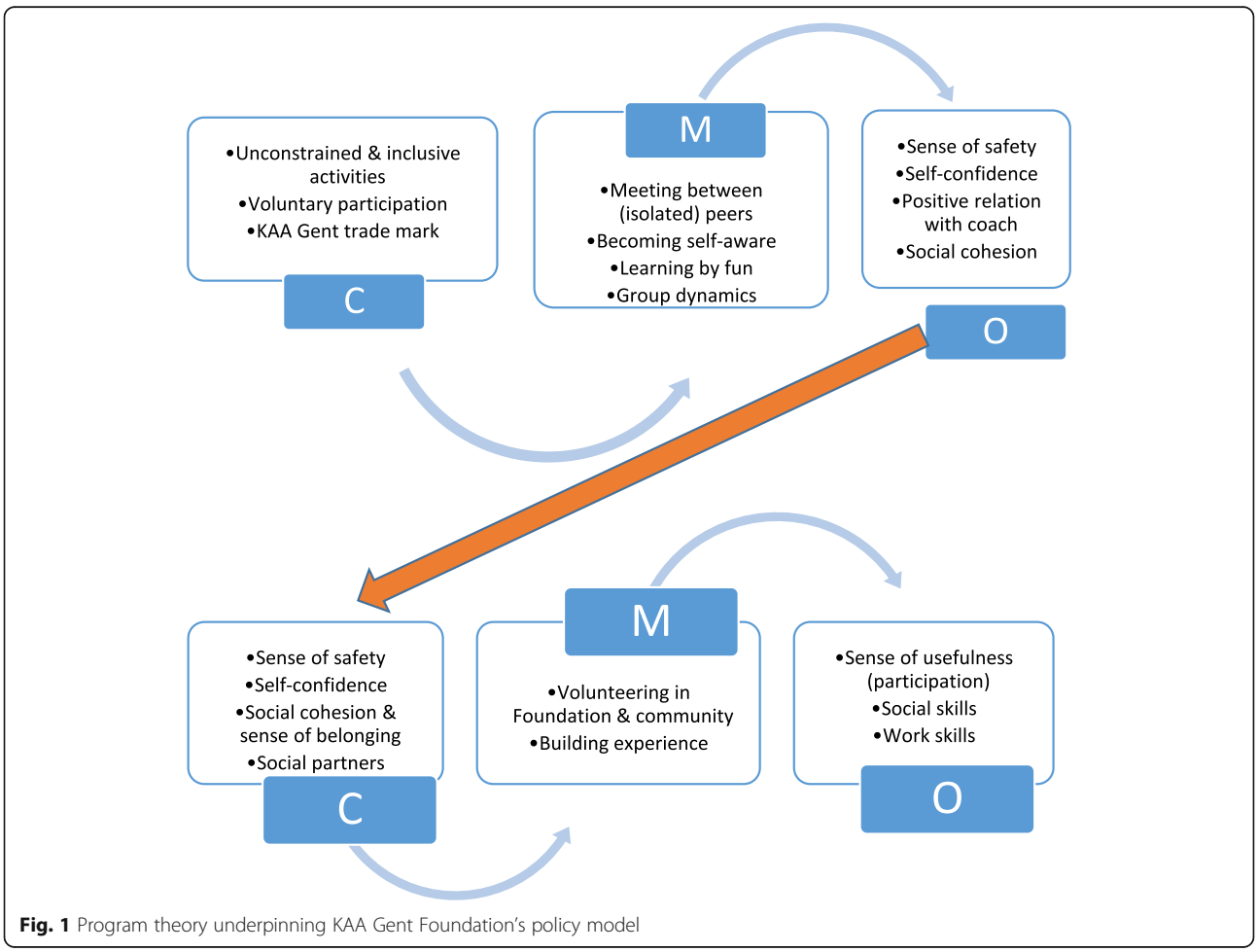


Fig. 1 Program theory underpinning KAA Gent Foundation's policy model

eleven of them. Interviewees were selected based on their interest in telling their story, taking into account a fair distribution between the GB ($N = 6$) and the GP ($N = 5$), between habitués and newcomers, and a representation of the different vulnerabilities (poverty, homelessness, addiction, psychosocial difficulties…) faced by the participants. Recruitment of participants for key informant interviews took place during the participatory observation. Since women are underrepresented both in the GB and GP, this shows in the gender distribution of interviewees. For this semi-structured in-depth interview, with an average length of 50 min, an interview guide was used that allowed exploration of key mechanisms and context factors as identified in the Foundation's PT (cf. Figure 1). Interviews were audio-recorded upon permission of the interviewee (9 out of 11) - when not audio-recorded, notes were made by the interviewer.

Lastly, a FGD ($N = 8$) took place (November 2018). Participants (two coordinators, 3 social partners, two participants of the Foundation's activities and one SFD policy expert) were purposively selected. Having observed respectful and straightforward communication between these stakeholders for almost a year, we were confident this mixed constellation would not endanger any of the participants and might be an opportunity for open discussion and in-depth insights in the functioning of SFD in general, and the Foundation and its network in specific. The FGD was moderated by two experienced researchers in qualitative research and discussed the findings of the (anonymized) interviews, and parallels between the Foundation's policy plan and a by the researchers developed PT (cf. Table 1) on how SFD may impact the participant's health and wellbeing. The FGD was audio-recorded and transcribed.

All documents, observation reports, interview and FGD transcripts were entered in NVivo 11 software. Three researchers were involved in the data analysis. First a process of open, axial and selective coding was carried out separately by two researchers, with regular discussions to find common ground on their respective analysis of the data. Whenever conflicting analyses occurred, feedback was requested from key stakeholders or a third CATCH researcher. Then the research team developed hypotheses as to how and in which circumstances the Foundation's work might lead, or not, to improved wellbeing. These hypotheses were profoundly studied, searching data actively for key mechanisms (M) generating intended and unintended outcomes (O) concerning the SFD participants' wellbeing and for context factors (C) triggering or hindering these key mechanism. The hypotheses were also discussed in the FGD.

Written informed consent was taken from all participants. The study was approved by the ethical committee of Ghent University (number B670201836103).

Results

This section consists of three parts. In the first part, we translate the Foundation's policy model #COBW (cf. Table 2) into a realist program theory (Fig. 1). This analytic step preceded and inspired further data collection (interviews and focus groups). In a second part, we scan through all data using realist spectacles, identifying key mechanisms and context factors that have seemed to be crucial in generating beneficial outcomes for the Foundation's participants. In the last part, we present evidence derived from observations and perceptions of participants and key stakeholders, in support of the theoretical assumptions made in the Foundation's PT.

Program theory underpinning #COBW

From the #COBW policy model, we derived the following context (C), mechanism (M) and outcome (O) as building blocks of the Foundation's PT: *Through unconstrained and inclusive activities in which people participate voluntary (C1), likeminded or similarly backgrounded peers have the opportunity to meet, to share fun and unconditioned time (M1), making it possible for participants to gain self-confidence and trust in others (O1). Such context, wherein participants feel safe and experience a sense of belonging (C2), and in which social partners collaborate in a larger network (C2), allows the participants to take up some engagement and responsibility within the team, and later on, within the Foundation and the community (M2).* As such, a learning context is shaped for the participants to build life skills such as social skills and basic work skills, and to gain a sense of usefulness (O2). This program theory is illustrated in Fig. 1.

Key context factors

In what follows, we describe some of the necessary context factors that make SFD a successful tool to promote health. Some of these elements are at the same time (initial or intermediate) outcomes of the program's key mechanisms and facilitating context factors for key mechanisms that may be triggered later on in the program, when necessary conditions are met - these elements are identified as (O&C).

Unconstrained & inclusive activities (C)

Participants of the Foundation's activities speak of a spontaneous, fun and respectful atmosphere. They consider the activities an ideal place to ventilate, to lose frustrations, to make contact, or even friends, and to grow self-confidence.

It does not matter whether you can play football or not. The way that we play football, makes everyone have fun, and relax. (…) Then it is fun to just empty the head a bit through football, and the social happening matters as well. (J).

Voluntary participation (C)

For the Foundation it matters that participants come because they want to come, not because they are obliged. Participants are recruited by different social partners (e.g. social welfare council, the psychiatric hospitals or outreach teams…), proposing the Foundation's activities on a voluntary basis. Data support the idea that the Foundation succeeds in motivating its participants in the long run. E.g. when participant K came to play for the first time in the team, one of the psychiatric nurses from the social network said: *"This is just a try, most likely there will be no next time."* Yet, participant K kept on coming back. Something similar was worded in an interview with another participant: *It was new to me and I wanted to try. But I never thought I would stay this long. (I).*

KAA gent trade mark (C)

Many of the participants are big fans of the KAA Gent first division football team. KAA Gent is known as a football club proud of its supporters, with attention for the common man, woman or child in the street. This makes their supporters and the citizens of Ghent, football fan or not, as proud of their club as the club is of its fans. We observed the club logo on the sports outfit of the Foundation's staff working like a magnet: children in the street shout the club's name and play with the Foundation's volunteers, curious parents and neighbors come to see what's happening. Community activities organized by the Foundation are very popular events. All want to be part of the club that presents itself as one big family.

Sense of safety: no pressure to succeed (O&C)

Observation and interview data provided evidence for the accessible and safe environment created by the Foundation. Sense of safety is at the same time an initial outcome of the Foundation's activities (as experienced by its participants) and a necessary context factor for further outcome.

There is less pressure to perform. (I).

Everyone has his own story. And his own experience. And the moment of training (…) is a moment of letting all that go. And not really being occupied with all that. (H).

Positive relation with coach (O&C)

A constructive relation with the coach being an initial output of crucial importance to further realization of the Foundation's goals, it is essential to find proof of such relation in the interviews with participants. Although not always mentioned explicitly in interviews, evidence was found at many occasions, including observations of the activities.

Yes, it is the best that happened to me. That I met [the coach]. (…) In the beginning we did not match. I was not always good or safe… But after a couple of months we started really talking. And at one point I said I could not go on like that. And since that moment we have continued growing. And we became friends. (B).

It is important to know that the coach accepts you, knows how you are with your limitations. Also important is the fact that the coach strives for equal participation in games, and does not let you sit at the sideline all the time. (I).

Self-awareness & self-confidence (O&C)

In the voice and the attitude of most respondents, you can hear realization, consciousness of the length of the path they have walked. Self-awareness is not only an initial outcome of the Foundation's activities but also a necessary condition for further personal development and wellbeing.

[I smoke] 1 package a day. Sometimes that does not disturb you, and you're not really occupied with it. Football makes you lose your breath, so you think about it. (E).

The Foundation stimulates its participants to share their life stories, and as such raise awareness about issues as poverty and addiction. Doing so, participants themselves become more and more aware about their strengths, their vulnerabilities, the chances they missed, those they can or want to grab, and so forth.

From the homeless team, I started to grow further. I started to trust myself, to grow, my uncertainties started to go away, the doubts about myself. It [the project] really drew me up. But I had enormous dells that pulled me down again. Because I made the same mistakes again. Yet, I've learned from that and (…) that is what makes me strong now. To learn from your own mistakes to be able to face the future positively. (A).

All respondents come with examples of how the Foundation's activities reinforced, in direct or indirect manner, their self-confidence.

The coach taught me to first bring confidence in my game, and to then build towards confidence in myself, and finally trust in others, the world outside. (A).

Social cohesion and sense of belonging (O&C)

Regularly, the Foundation organizes activities other than football. E.g. the Belgian Homeless Cup brings participants together with peers from all over the country in a two-days meeting: participants stay in the same accommodation and have plenty of opportunities to discuss, watch a theatre show together, go visit a village etcetera. The Foundation organizes shared lunches or dinners. Apart from the necessity, for many participants, to have a decent meal, this also serves social cohesion, since eating together is a social event in every culture.

Yes, we are quite attached to one another. There are many friends. Two weeks ago, I went to paint, clean and organize the whole house of B. [fellow player]. (…) I invite a lot of people to come for diner at my place, for

otherwise I'm just alone. (…) It is more than just sports, that's right. (D).

The constructive group dynamics create a powerful sense of belonging among the participants who are used to various experiences of loneliness and social exclusion. An additional facilitating context factor is the example given by the Foundation itself of treating all as part of the team, and welcoming with open arms its participants, no matter where they are in their personal trajectory: *It is one warm group, whatever happens, you stay welcome. And that is the most important for me. I think for many, yes. (C).*

Social partners (C)

During the training, social partners take turning roles to be present. For most participants, their presence is an important context factor.

Yes, it does [matter that partners, such as psychiatric nurses, are present during training]. For when you are having a difficult time, you can go sit with them for a while. (I).

There are people who don't dare to go [talk to the social partners]. You have to push them a little, and sometimes the coach accompanies them. Yes, once you have that [network of social partners and follow-up of participants], the rest follows automatically. (B).

Evidence in support of the Foundation's PT

In the last part of the results section, we examine whether in the case of the KAA Gent Foundation unconstrained, fun and inclusive activities indeed promote meeting between likeminded people, and as such enhance self-confidence and trust, shaping a context ideal for learning life skills, including social skills, emotional skills and basic work skills.

Lifting barriers to get participants to play, and to stay

Respondents confirm at many occasions that they come to the activities primarily to have fun and be able to let go of things. All mention the additional benefices (improved social contact, emotional regulation, social skills, etcetera) though, albeit in a secondary time. This confirms the existence of one of the most efficient mechanisms taking place during the Foundation's activities: 'learning by fun'.

Just to have a pleasant time (…) Just the feeling, during the training, to be gone for a while, two hours away from society, from daily sorrow (…). It is distraction, most look very much forward to that time. It is that moment of the week, and there they are. (A).

Confirmed by all respondents is the ventilating and relaxing effect of sports, especially when coach and fellow participants put the focus on fun, and not on sportive results.

Sporting empties the head a little. (…) You can let go of things that you struggle with, and then there is room for other things. (I).

Sport is for many an easier access to therapeutic work. Especially team sports is considered a great springboard to practicing social and emotional skills. Although football may not be the most accessible of the team sports, as one of the respondents mention: *The people that I try to convince to come with me often react with 'oh football, that is nothing for me'. While these people do participate when it is badminton, for example. (I).*

However, the manner in which the training sessions are organized, motivates also those who have never touched a football before. It is different to regular football clubs, where focus is on result instead of fun, and there is "*too little place to have a good laugh, or to be allowed to make a mistake" (G).* The fact that *"it does not matter that much whether you can play football or not" (I)*, is for some respondents an important factor to start (and continue) to come to this group activity.

At the one hand, the Foundation actively recruits participants from socially vulnerable groups, at the other hand, it tries to lift financial barriers in order for youth from all social groups to be able to play in the local football club: *The Foundation works with children living in poverty. There are almost no financial barriers left for parents (…): kids receive sports outfits and football baskets. (H).*

Several respondents mention the fact that the accessible and respectful environment in which the Foundation's activities take place, makes meeting and making friends easier. The Foundation organizes its activities in a way that participants feel that it is a safe environment, in which they are not obliged to keep up to certain expectations. In this, the Foundation's activities, although supposed to lead to social and emotional learning, are nothing like meeting with the social assistant, therapist, or employment service: *You immediately feel like in a safe zone [at training]. The same as when you enter the psychiatric hospital. They don't ask 'where have you been?' (H).*

This sense of safety has to do as well with feeling accepted: *Usually, when people relapse (start again with drugs or alcohol), they are told to leave. Or, they want to collocate you. They let you go. Yes, I experienced it too. But when I told the trainer here that I would not come to the training, for I was relapsing, he said 'definitely come!' (C).*

Do people with similar background meet more easily?

For most respondents, participation to the Foundation's activities has indeed led to enhanced social contact or an enlarged network.

It started out with playing [football] together once, a couple of participants being quite alright, and … Then people come back, so you create a bond with them. After

a while you add them to Facebook, you do a tournament together, go for a drink afterwards… (H).

The Foundation organizes all-inclusive activities in the community, but also activities targeting specific groups, such as people facing psychosocial problems and homeless people. Does bringing them together help them to be more socially included?

The advantage of the Funny Buffalo's (…) is that we all have a past in psychiatry. In some, you can see that clearly; the scarfs on their arms, their legs. In others you don't see it that well, for it is internalized, but you do know that also those have a psychiatric history. And then you may easily feel a connection. (H).

[It helps to have a similar story] Because you know that the other understands you. (I).

A similar story is not enough for a connection though. One of the respondents mentions the fact that gender plays a role as well. *[I did not build a network there.] Perhaps because they're all men. (I)*

Also the variety in where one stands in the personal process may influence the ability to connect:

Not everyone is as far in his or her program or therapy. That is noticeable, which makes it sometimes more difficult to get in contact. Some people are more introvert, while others are a bit too social or a bit too motivated. Which can also be a reason for not connecting. (H).

On the question whether facing the same vulnerabilities might also be of negative influence on the personal process, a respondents confirms: *The others might drag you down when they have a difficult time. (…) That is why it is handy to have different groups of friends. When you risk to be dragged down, you can drop that group. For me, there is a group at the social work place, a group in the psychiatric hospital, and since recently, a group of friends from football. (G).*

Just like similarities in life stories and difficulties may make people feel strongly connected, peer experts may serve as a powerful example for others.

At the one hand, I do not want to be an example for I as well have made mistakes in my life; at the other hand, I do want to be one because I want to show that it is indeed possible, that you can make it finally. (…) No matter how many books you read, it is not nearly the same as what you have done or experienced yourself. You cannot just write that in a booklet. It is something that you should be able to keep for yourself and to share with those persons that need it. (A).

Trust in yourself and others as necessary condition for growth

Many participants of the Foundation's activities have trust issues: *The most difficult thing to change is to trust. And finally, when I have a tough time, say how I really feel. Because I have a tremendous fear … to be rejected. I always think: 'If they would know the whole content of my backpack, they will not want to get involved with me'. In the Foundation, you get the feeling 'to be allowed'– even when I don't fully admit to it. (C).*

Although many respondents state it takes a while before they open up and really get in touch with other participants, most of them recognize that after a while a relation of trust is built, opening up opportunities for real connection.

After a while there is a bond of trust so for once [you dare to speak out]. Recently I sent a message to X 'It's not going well'. To the assistant coach as well. And those people are effectively there for you, you know? Albeit via *a text or a call 'keep your head up, buddy'. Without digging too deeply. (H).*

Respondents confirm the importance of trust in oneself and the others as a condition for several life skills: *The first important step is to learn to have faith in yourself and in people. If you don't have that, you can't progress. (A).*

Building experience and skills

Study data provide many examples of social, emotional, attitudinal and work-related skills being strengthened through participation in the Foundation's activities.

I used to have a lot of frustration. I did not tell anyone but the consequence was that I had more fights with the coach. Now the coach is my best friend. He taught me a lot of things to lessen my frustration. That, if I'm bothered with something, I should leave for a moment. (…) That has made me change everything in fact. (…) I used to be addicted to alcohol. Now, it is different. Even if I experience stress, I no longer start to drink. (B).

Engagement is important. (…) Also for the trainings you engage. Together, we do achieve some sort of goal. (K).

When alone at home without any responsibility or activity to keep you busy, it is easy to slip into isolation, and to forget how to talk to people, how to start a conversation, how to give your opinion in a respectful manner… These social skills need a bit of practice.

You have something to do again. On Tuesday I play football and on Thursday I prepare breakfast [a community initiative for people with little means]. Those are things you do, and it does you good. Otherwise you're just sitting at home. (D).

A particular social skill that the Foundation is keen on and tries to stimulate at several occasions is caring for the other.

[We learn how to care for one another]. Yes, I've grown in that. [That is what the coach says] I don't see it that much yet. But indeed, the group feeling is prior for me now, instead of the football. If we don't win, we don't win. Then I think: 'Ok, we tried our best'. In the past, I would never have encouraged my team mates. Now the encouragements come all by themselves. (C).

The most basic attitudinal skills that the Foundation seems to be working on through SFD are: 1) being engaged, e.g. coming when you are expected; 2) coming on time; 3) getting through one or two hours without smoking or drinking; 4) communicating in a respectful manner; and 5) cooperating, working together for a common goal.

A respondent compares the Foundation's activities with a social work place:

At the one hand there is a lot of structure, at the other hand you feel useful. In the beginning I told the responsible of the work place that it was impossible for me to be more than 15 min without nicotine. But soon I could work one and a half hour between smoking breaks. (G).

Many respondents illustrate how this works for them on or beside the sports field as well:

When I go play football, I won't drink, or very little. If I would not have to go play football, I would drink something, for you have nothing to do. After training I might go for a pint, yes, but it is less (…) yes, the previous year, it was more. Now, you have to go play football, so it's difficult to take a bottle of vodka. You have to work on your condition. So you go for a run during the week. (D).

The fact that sports is but a pleasant pretext for other than sport-related goals is beautifully illustrated by the following quote: *(…) to collaborate more and to learn from one another. Because that is what you do. Not only playing football. You hear someone saying something that is applicable to your life (…). So you constantly learn from one another. (H).*

Wherever possible, the coach makes the link visible between skills practiced in football and their use in real life.

The coach taught us that football consists of three things: you think about it with your head, you feel it with your heart and you do it with your feet. He says it is exactly the same 'outside': you take your steps with your legs, you make you decisions based on feeling, but you do think about them, whether they're the right ones. (A).

The empowering effect of responsibility and engagement

Volunteering within the Foundation, or elsewhere, is stimulated. The Foundation considers it an opportunity to build basic social and work skills, while the participant's main motivation to volunteer is to have an occupation and to feel useful.

I started to do the breakfast for the social welfare council on Thursday. I got in touch via *X, a fellow player. (…) I used to take breakfast there, now I go there to help. I have to be there at 8 am, get up at 6.30 am. It gives you strength. Afterwards I eat a sandwich there and when I get home, it is already 12 am or 1 pm. On Tuesdays there is a soup café. I got acquainted through football; you get to know people who do these things [volunteering]. (…) Perhaps I can work 2 days a week somewhere to start with. Then I have Tuesday football and Thursday the breakfast, so that makes 4 days filled. (…) You see a lot of homeless at the breakfast. It fulfills me to help there. (D).*

I am busy 7 on 7. (…) All voluntary work. As long as I'm busy, at least I'm not in the pub. (F).

Not all participants of the Foundation's activities are interested in taking responsibility within the Foundation, however all are asked to engage a minimum in the community activities that the Foundation invests in, e.g. sponsor runs for charity, organizing a community gathering in deprived neighborhoods, animating children in the street, etcetera. Several respondents mention how these responsibilities, how little they may be, bring about a sense of purpose, a sense of belonging. From the data, it could be identified as one of the most powerful SFD outcomes. Many socially excluded feel a nobody because they feel they only receive, and are no longer able to do something for or have some meaning for others.

[About why sport plus is so powerful] To let one help the other. That is important to me. (…) That is meaningful: to get a role and to mean something to someone. By doing an exercise, for example. (I).

I never thought I would ever again be in such position in my life. That I could still, perhaps without knowing, have some meaning for people. (…) To feel useful in life, in community … Especially that. Because many of us feel like a failure. As if we walk around here doing nothing, not belonging to society. (A)

Why doesn't it work all the time, for everyone?

As mentioned by the participant and social partners, drop-out from the Foundation's activities is rather exceptional. When participants do not return to the activities, the reason is often a positive one, e.g. having found a job, or having one's life back on track and for that reason no longer having the time to participate in the Foundation's activities. However, not all participants succeed in getting their lives back on track. Asked for possible reasons why the Foundation's theory of change does not lead to a successful outcome in some of the participants, respondents mainly point a finger at the individual's responsibility.

Perseverance… Continuously doubting what you can, and what you can't do. Keep on hanging out with the wrong persons. Not wanting to learn from your mistake. If you don't have the motivation or the will to achieve something, it is difficult to progress. (A).

Some people are perhaps not ready for it. Also, everyone is different. If you're someone who constantly wants to perform and you're not really open for accessibility and for other people; or if you feel too good for others, or look down at others because they are a bit different, then it is possible that it does not work for you. (H).

None of the respondents states that the project has not changed a thing for them, or has not created an improvement, how small it may be.

Discussion

In a first step we examined whether the in the Foundation's policy plan as optimal described context (i.e. a unconstrained and inclusive culture, a positive relation with the coach, a context in which participants feel safe and accepted) was effectively put in place. Then we looked closer into the underlying assumptions of the Foundation's PT: could evidence be found in the data that supports this theory? The KAA Gent Foundation's interventions can be characterized as complex seen the number and difficulty of behaviors required by those delivering and receiving the intervention, seen the different groups and organizational levels targeted by the intervention, the number and variability of outcomes and the degree of tailoring allowed [40]. One of the key questions in evaluating complex interventions is what are the active ingredients and how are they exerting their effect [40]. That is why we turned to a realist evaluation.

Data suggest that the Foundation makes efforts to effectively create the necessary conditions through all of the levels of activities. Participants confirm that the activities are accessible, that it all starts light-footed and in a welcoming, warm atmosphere. They mention they keep on receiving chances from the coach and the organization as a whole – something they consider to be different with other welfare actors. Most also confirm to be able to enlarge their social network through the Foundation's activities. Furthermore, they consider it an experiential learning space: first they learn more about themselves, their strengths and limitations; then they learn to have trust in themselves and in others, which allows them to open up and search for help when they have a difficult time.

Some successful strategies the Foundation uses to engage its participants in SFD, include activities other than playing football, volunteering and a shared engagement in community work. The most powerful context factors in the Foundation's success story appear to be the coach(es), the peer experts among fellow participants of the activities and the link with social partners. The opportunities given to participants to take care of one another, is a strong emancipating factor, allowing participants to grow, to practice some life skills, and to feel useful with better mental health and wellbeing as a direct consequence. In the Foundation's policy model, the final objective is employability. It is not possible to account for employability as a final outcome, because of the complexity of both the intervention and each participant's personal context. The Foundation is but a small radar in a complex societal network and intervenes only in a limited amount of domains. There are many other influential factors that it has no control over. Moreover, the exposition time is short (on average 2 h a week), which provides only limited possibilities for a regular practice of targeted life skills.

Nevertheless, a number of important initial and intermediate outcomes could be observed, potentially though not obligatory leading to the final outcome. Participation as such, is an essential outcome to start with. As Coalter states: 'By its very nature sport is about participation. It is about inclusion and citizenship. Sport brings individuals and communities together, highlighting commonalties…' [41]. Participation in the Foundation's sport activities provides important opportunities to create relations of trust – both with the coach and with peers – and to connect with others, something isolated persons do not often have the chance to. According to our data, initial and crucial outcomes following participation, are reflection and increased self-awareness – evidence that is in line with the CATCH program theory. Also at the first level, basic skills (emotion regulation, communication, being on time, engagement, respect, remediation…) are put to practice, as such enhancing the participant's general self-efficacy.

Several theories have confirmed the importance of perceived self-efficacy or perceived competences in building lasting, intrinsic motivation to set goals for oneself and to self-manage [42–44]. It determines 'how long people will persevere in the face of obstacles and failure experiences, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, and how much stress and depression they experience in coping with taxing environmental demands' [42], p.625). The Foundation applies all four strategies defined by Bandura as the pathways to strengthening people's sense of efficacy: through reduction of people's stress reactions and altering of their negative emotional proclivities, through mastery experiences, through provision of social models and through social persuasion [42], p.625–626). All of these strategies are equally detectable in the CATCH program theory. Perhaps the most powerful strategy of the Foundation, not only to raise its participants' sense of efficacy but also to have them practice life skills, is modeling. Seeing people similar to oneself succeed by sustained effort, raises the beliefs of newcomers and participants less far in their personal trajectory that they too have the competences to succeed [42]. What Bandura calls social persuasion, is labeled 'motivational coaching' in the CATCH program theory: people receive encouragement, and their attention is drawn to their success rather than their failures. The current case study shows a tremendous impact of the coach(es) on the participants. The coach's words of appreciation carry a lot of weight, participants turn to the coach for advice

of all sorts, the coach is called in case of personal problems, and so forth. The Foundation's coaches have proven to be strong social persuaders, as such enhancing its participants' sense of efficacy and belief in oneself. In SFD organizations perhaps even more than in regular sport clubs, positive coaching is an efficient and required technique. Rather than focusing on what is not going well, and on elimination of undesirable behavior, e.g. alcohol consumption, a 'positive coach' emphasizes the promotion of various competencies, including life skills that enable participants to succeed in their living environments [45, 46].

Self-efficacy plays an influential role in health and wellbeing, because it reduces people's stress (often linked to perceived inefficacy) and it determines people's motivation to change their health habits: 'whether people even consider changing their health habits; whether they enlist the motivation and perseverance needed to succeed, should they choose to do so; how well they maintain the habit changes they have achieved; their vulnerability to relapse; and their success in restoring control after a setback' [42], p. 627). A relativizing note comes from Ryan & Deci, who have highlighted the importance of self-authored motivation in contrast to more externally controlled motivation: intrinsically motivated people are more enthusiastic and interested and have more confidence, resulting in better performance, resistance, creativity, vitality, self-esteem and general wellbeing, even for people with similar levels of self-efficacy for a certain activity [44]. In the Foundation's program theory, voluntary participation is indeed considered a necessary context factor.

While the study data provide evidence for improved wellbeing of participants of the Foundation's activities, health nor wellbeing are explicit outcomes in the Foundation's PT. This gives oxygen to two ideas that could be developed in a later phase or an additional study. First, it supports the portability of the mechanisms (meeting between (isolated) peers, becoming self-aware, learning by fun, group dynamics, volunteering and building experience) to other contexts. This also means that the same mechanisms might lead to different outcomes. Secondly, it is interesting to witness how the Foundation seems to succeed in improving its participants' wellbeing although health and wellbeing are no articulated outcomes in the Foundation's program theory. Moreover, the Foundation is relatively tolerant and unconditioned in its approach, something which is not (and most probably cannot be) the case for formal care institutions, such as psychiatric hospitals. Improved wellbeing seems to be an important intermediate outcome when working towards a more distant outcome, such as employability (being 'the skills and abilities that allow you to be employed' [47]. This strengthens the idea that successful health promotion requires an approach that allows the target population to set its own goals, and to develop health agency in relation to the environment, for example through valuable interpersonal relationships [48]. At least in vulnerable populations, 'empowering interventions' increasing one's power to question social health norms, have proven to be more effective in promoting health than the more traditional 'informing' approaches [49–51]. In this study, health and wellbeing seem to be precious side-effects of guiding people to the ability to set personal objectives and to life skills promoting self-efficacy.

The Foundation's policy model is an ideal model; the final objective, although mentioned at the top of the pyramid, is not that all participants go through the whole trajectory and find a job in the end. The organization's major objective is to have as many persons from the target group as possible benefiting from level one, where basic life skills are practiced that enhance one's self-esteem and self-perceived efficacy, as such increasing one's intrinsic and long-lasting motivation to pursue personal goals, whether they are related to health, employability or social wellbeing. An impact on employability among participants of the Foundation's activities could not be observed, or in due case, not be attributed to the Foundation alone.

Strengths and challenges. Participatory observations allowed researchers to build relationships of trust with SFD participants and stakeholders, facilitating further data collection. Researchers were experienced in qualitative research, hence their awareness of potential biases associated to such trust relationships, and their capacity to mitigate them. Regular discussion and feedback from key stakeholders, peer researchers and SFD actors external to the case study at the one hand, and a parallel interventional study in another SFD organization at the other hand, challenged the researcher's perspectives, and kept them susceptible for differing views. Future research opportunities include the follow-up on SFD participants (e.g. cohort study), in order to observe the long-term and structural effects of SFD, such as the effect on employability, and case studies rejecting the Foundation's PT (hence challenging the approximating CATCH theory).

Conclusion

This study aimed at examining which conditions, necessary for a successful outcome, are put forward by the studied SFD organization in promoting social inclusion, and which are the main mechanisms through which the Foundation achieves this outcome.

Among the necessary conditions for making SFD a powerful lever for social inclusion, are the background, experience and skills of the coaches and social partners

involved in the Foundation's activities – a conclusion similar to the one of the CATCH program theory. Among the most successful mechanisms of SFD are the meeting with peers, among which some experienced ones who can be a role model for others, and the possibility to engage and take responsibility in the organization or in community. The opportunities given to participants to take care of one another, is a strong emancipating factor, allowing participants to grow, to practice life skills, and to feel useful, with better mental health and wellbeing as a direct consequence. The final objective in the Foundation's program theory is employability, but it does not expect, nor does it push, all participants to reach that goal. Life skills are practiced at all levels of the Foundation's program theory. Wellbeing shows to be an unintended but necessary intermediate outcome on the road to employability. This is a useful insight for practitioners and policy makers. Socially vulnerable and socially excluded persons are not easy to reach. Sport activities organized in a very accessible and (culturally) acceptable manner, are a safe and fun starting point for people from the target group to return to – as shown as well in the CATCH program theory, built on insights from international literature and various national SFD projects. From that safe starting point, SFD teams that are positively coached, can grow into a social learning lab in which many of the determinants of social exclusion can be addressed. Policy makers and project funders need to be aware that the process through which socially vulnerable persons bond with peers and with coaches, is a time-consuming, however, quintessential process if the aim is to engage the target group in a sustainable self-caring dynamics leading to personal health goal-setting.

Supplementary information

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Additional file 1. Overview of data collected in the case study KAA Gent Foundation

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Authors' contributions

KV and EL collected and analyzed the data. KV wrote the manuscript, with substantive contributions by EL, among others improving the manuscript's discussion. SW supervised the study, provided technical guidance and guarded overall study quality. All authors read and approved the final manuscript.

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Availability of data and materials

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Ethics approval and consent to participate

The case study was approved by the ethical committee of Ghent University (number B670201836103).

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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Publisher's Note

Study 4: Looking for boundary spanners

Never doubt that a small group of thoughtful committed citizens can change the world. Indeed, it is the only thing that ever has.

— Margaret Mead (1901-1978), anthropologist

Looking for boundary spanners: An exploratory study of critical experiences of coaches in sport-for-development programs

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Abstract

Given that sport-for-development (SfD) requires the intentional use of sport as a tool to realize developmental goals in complex contexts, there is a need for reflexive SfD coaches who can successfully contribute to the delivery of programs. In this study we explore the lived experiences of SfD coaches in a selection of programs in Flanders, Belgium. We look at their responsibilities, perceived competencies and the conditions that need to be in place in order to realize SfD goals. Qualitative data spanning a four-year research project were analysed in order to understand how, why and in what contexts coaches contribute to SfD programs. The analysis unearthed a boundary-spanning coach profile, establishing emotional connectivity, working in a transprofessional manner, and occupying professional hybridity that adapts to context continuously. These results provide an important contribution for SfD practice and policy, nourishing reflection on the 'ideal' SfD coach profile, and how it could be generated within the most complex times.

Keywords: Sport-for-Development, social work, sport coach, coaching, boundary spanner

Introduction

Participation in sports is increasingly seen as an effective manner of reaching youngsters (and adults) in socially vulnerable situations, hence the organization of local sport activities targeting specific, often suburban, quarters (Haudenhuyse et al., 2018). These practices aim to make sports and its related benefits accessible to those who could benefit (mentally, physically and socially) most of sports participation. They come in different forms and have different names, depending on whether sport is the ultimate goal, or rather a tool to realize 'developmental objectives', such as personal development, crime reduction, peace building, etc. (Haudenhuyse et al., 2018). Among the most commonly used terms are sport-plus, sport-for-change, and sport-for-development (SfD). Lyras and Welty Peachey (2011, p.311) define SfD as "the use of sport to exert a positive influence on public health, the socialization of children, youth and adults, the social inclusion of the disadvantaged, the economic development of regions and states, and on fostering intercultural exchange and conflict resolution". Following this definition, we could project SfD as a true intersectoral and transdisciplinary (Haudenhuyse et al., 2020) social lab in which social workers, sport coaches, youth workers, researchers, job coaches, and many more profiles collaborate in finding an effective 'treatment' for social vulnerability.

At the centre stage of the realization of SfD programs are the program deliverers. Whether they are called '(sport) coaches' (Schulenkorf, 2017), 'educators' (Spaaij et al., 2016), 'practitioners' (Debognies et al., 2018), 'instructors' (Lyras & Welty Peachey, 2011), 'boundary spanners' (Jeanes et al., 2019) or 'peer leaders' (Lindsey & Grattan, 2011), their position is crucial in view of the effectiveness of the practices and projects (Cronin & Armour, 2015). Being reflexive, adaptable to different contexts and able to see beneath the surface of how participants reason against the resources they provide in their coaching (Dalkin et al., 2015) seem to be important characteristics of successful coaches. It is interesting to note that coaches with diverse educational and experiential backgrounds deliver SfD practices. Some have grown up and experienced the many issues that the programme they are working in is trying to prevent, thus occupying the cultural intermediary role (Crabbe, 2009). Others possess educational backgrounds spanning higher education based courses in coaching and sport-for-development, and there are those who complete formal national governing body qualifications associated with their main sport. More specifically, and what remains an issue, is that specific training of what SfD coaches

need to do to be able to fulfil their role is not formalized. This is even more an issue in the current context of COVID19 where the underlying issues at play within SfD programs are at their zenith.

Despite these different profiles, there are also a number of communalities that can be observed in terms of how these coaches fulfil their coaching roles. All these different profiles are engaged in boundary-spanning activities, processes and tasks. 'Boundary spanners' – a concept derived from organizational and policy theory – are critical actors in multi-sector collaboration tackling complex social issues. They link individuals, organizations and groups with different interests through liaising and gatekeeping (Jeanes et al., 2019; Williams, 2013). Boundary spanning is an umbrella term that may incorporate many different skills, capabilities, roles, and responsibilities. SfD coaches have also been referred to as 'cultural intermediaries' (Crabbe, 2009), who "construct value, by framing how others (…) engage with goods (including services, ideas and behaviours), affecting and effecting others' orientations towards those goods as legitimate" (Maguire & Matthews, 2012, p.552).

Engagement into SFD is not easily attained and drop-out is quite apparant. One of the reasons is that sport participation is not an easy choice for hard-to-reach groups having other priorities and concerns to deal with. Also, engagement is impeded with structural boundaries (Curran, Drust, Murphy et al., 2016). Insight into the workings of SfD has revealed that a multitude of interacting mechanisms, both on an individual level and structural-environmental level, might explain the uptake, maintenance and effectiveness of those practices, hence the importance of understanding of context (Oatley and Harris, 2020), the development of sound program theories (Coalter, 2012) and attention for sustainability (Lindsey, 2008). Given the social issues agenda that permeates sport, and particularly SfD, there is a need to capture the tasks, responsibilities and required skills of the SfD coaches involved and to conceptualize this profile more.

It is not possible in this paper to extensively review the literature that already exists surrounding coaches in SfD. However, we recognize the contributions the likes of Jeanes et al (2019), Crabbe (2009), Taylor and McEwan (2012), and most recently Crisp (2020) have made to understanding and making sense of the roles of coaches in SfD. We intend to build on these excellent contributions by offering a more unique insight of how and why coaches operate in the SfD space. In this article we focus on a selection of established SfD programs in Flanders (Belgium).

More specifically we explore the lived experiences of coaching in SfD, and in particular the responsibilities, tasks, perceived competencies, but also the needs and structural conditions that need to be put in place in order to realize coaching. The SfD programs were studied over the course of a four-years lasting research project, called CATCH (*Community Sports for AT-risk youth: innovating strategies for promoting personal development, health and social CoHesion*). Extensive data has been collected to understand how and why SfD programs work.

Methods

Because SfD practices embody complex interventions, many scholars have suggested approaches differing from the traditional ones when studying SfD programs (Coalter, 2010; Jeanes & Lindsey, 2014; Kay, 2009; Spaaij et al., 2018), e.g. participatory approaches, leading to better learning, understanding and utilization of findings (Oatley & Harris, 2020). In this study, the qualitative data of different SfD studies were analysed for the key ingredients of successful SfD coaching. Stakeholders participated in both the data collection (semi-structured interviews, participatory observations) and data analysis. For example, in focus group discussions, at the one hand more qualitative data were collected while at the other hand earlier collected (anonymous) data and preliminary theories were thoroughly discussed with key stakeholders, who as such contributed to their analysis. Also later analyses were always fed back to stakeholders, in order to verify whether their perceptions and impressions were well translated. The SfD coach and the context in which he or she works, was studied through a realist lens (Pawson & Tilley, 1997). This implies that the study starts from the visible outcome (e.g. a SfD coach succeeding in motivating socially vulnerable individuals to engage through SfD activities) and works its way back to the invisible, underlying mechanisms (e.g. creation of a safe and trustworthy environment) that may have caused this outcome. The realist ontology also implies taking into account a maximum of contextual factors and the reactions of participants/actors involved in the intervention on the resources deployed by the intervention (Pawson & Tilley, 1997; Dalkin et al. 2015).

Study setting and data collection

For this explorative study, a secondary analysis was done of data collected within the CATCH research project (2016-2019, Flanders, Belgium), studying the mechanisms responsible for a

positive impact of SfD initiatives on social inclusion of socially vulnerable youth. Transdisciplinary in both design and implementation, CATCH gathers researchers from different fields, policy makers and practitioners in an action research. Its central research question is realist in nature, aiming at identifying underlying mechanisms and the circumstances in which these mechanisms are 'activated' (Dalkin et al., 2015). Within the CATCH project, and more precisely with regards to the question on how sport could be used as a health-promoting tool, three cases were studied. Case A contained multiple units of analyses, including three local 'football-for-development' teams (located in three Belgian cities of different sizes), their stakeholders (public social services, youth services, NGOs,) and partnering SfD initiatives (Van der Veken et al., 2020a). Case B concerned the transdisciplinary development of a training trajectory for community sport coaches in the medium-sized city of Bruges (Lauwerier et al., 2020; Van der Veken et al., 2019). Six to eight community sport coaches employed in a social (re)integration contract (i.e. following a combined on-the-spot training and employment trajectory) animate sport activities in the four most deprived neighbourhoods of Bruges, under the supervision of one sportive and one pedagogical coordinator. The community sport coaches' profile is characterized by several vulnerabilities, such as long-term unemployment, poverty, psychosocial problems, substance use (e.g., alcohol, drugs), etc. As such, these coaches can be considered to be experts-by-experience (EbE) with limited access to a formal coach training. Case C is about a single SfD practice, KAA Gent Foundation, aiming to improve the employability of socially vulnerable individuals via a process of personal development generated by social-sportive activities in which participants gradually take more engagement (Van der Veken et al., 2020b). Among others, they run a soccer team with and for people in precarious socio-economic situations (Gantoise Plantrekkers), a soccer team with and for persons with psychosocial difficulties (Geestige Buffalo's), low-threshold sport and citizenship-building activities for children in a disadvantaged neighbourhood (Buffalo League) and a dance academy in the same neighbourhood.

In all three cases, data were collected gradually (starting with the least 'intrusive' collection method, such as document analysis and observation, and then building further towards in-depth interviews) and iteratively (information from previous data collection was taken into consideration and used to guide further data collection). Data sources included field notes from (participatory) observation, document analysis, meeting minutes, interviews and focus group discussions (see Appendix 1). Interviewees in cases A & C were purposively selected in

collaboration with project coordinators to ensure respondents of different age, gender, ethnic background, occupation and type of partner organizations. In case B all trainees and both coordinators were asked to participate in an interview. All interviews were in-depth and semi-structured, using an interview guide based on the observations and discussed and revised by peer researchers, in order to reveal more easily key mechanisms and facilitating context factors within SfD practices. Focus group discussions (two in Case A, one in Case B) were organized at the end of the case study, allowing validation or adaption of theoretical assumptions derived from analysis of observations and interviews. The data collection methods used in this study allowed the researchers to look under the surface of the visible outcome, and to identify key mechanisms with regard to why and how SfD coaches may contribute to SfD's inner workings.

Data analysis

The current study is the result of a secondary data analysis carried out in order to deepen primary data analyses, as we felt there were some overarching insights across data and contexts. While primary data analysis served theory-building purposes in Case A and theory testing purposes in Cases B and C, examining why, how and in which circumstances SfD could improve health of socially vulnerable populations, the secondary data analysis as done in this study aims at retroductively uncovering what is going on beneath the surface of SfD coaching practices (Jagosh, 2020). Scanning the data on information concerning contextual factors making SfD coaches successful in their mandate, we first explored how SfD coaches, participants and stakeholders defined the essential roles of SfD coaches, and then what competences and behaviours are needed to fulfil these roles. The qualitative data collected within the CATCH research project were reanalyzed through a realist-inspired thematic analysis. Although a classical thematic analysis (familiarization with the data, coding, generating initial themes reviewing themes, defining and naming themes, writing up – cf. Braun & Clarke, 2006) was already done for earlier CATCH studies, we now looked at the data from a different perspective. The analysis now focused on the following sub-questions: What are the responsibilities and tasks of SfD coaches? What are their perceived competencies and necessary characteristics? Which structural conditions need to be put in place for SfD coaches to be successful in their role?

Thematic analysis can be used for both inductive (data-driven) and deductive (theory-driven) analyses, and to capture both manifest (explicit) and latent (underlying) meaning (Clarke & Braun, 2017). In the light of the realist ontology underpinning the CATCH research, the interest of this study is focused on the latent meaning (Braun, Clarke & Weate, 2016) and more specifically on the underlying mechanisms of SfD, and the role of the SfD coach in declining these mechanisms. This study's analysis thus relies on a mix of inductive, deductive and retroductive techniques (Jagosh, 2020).

Findings & discussion

Study data suggest that, for SfD coaches to take on a role of boundary spanner, an emotional connection with SfD participants needs to be established, allowing opportunities to accompany participants on their personal growth trajectory. To realize this connection, SfD coaches should work in a modus operandi characterized by three components: professional hybridity, transprofessionalism and adaptation to context. These modi come with specific competencies.

Emotional connectivity

Personal development is key in SfD, requiring coaches to possess skills for creating and facilitating steps towards personal development, using a mentoring approach (Bozeman & Feeney, 2007). SfD coaches play a crucial role in fostering and sustaining effective inter-personal relationships mediated through trust (Debognies et al., 2018; Taylor & McEwan, 2012;), as such creating a sense of psychological safety in the participants (Van der Veken et al., 2020a, 2020b). Carey et al. (2018) advice concrete steps: first listen, then ask questions, approach with humility, value diversity and follow through. Skills in communication, listening, empathy, negotiation, consensus building and conflict resolution are therefore appreciated (Williams, 2013) and emerged from our data as key in activating the mechanism of emotional connectivity, as supported by the following quote:

I mainly sat in between the supporters at the sideline, having chats. It sounds arbitrary but isn't. I also ran some activities afterwards, e.g. cooking with supporters and eating with the players. It's all part of the reinforcement process. Many more came because they knew there was someone sitting at the side willing to listen. (Koen, social worker)

Psychological safe space is facilitated by accessible, unconditional and fun SfD activities (Coalter, 2013), and a regular presence of SfD coaches in the familiar environment of the participants. This trustworthy environment then becomes the soil in which the boundary-spanning role of SfD coaches can grow:

You're standing on a square for months in a row every week on the same day, so you create a relationship of trust with these people. (…) Someday you get questions that should not necessarily be addressed to you – but they are because you have this relationship of trust. (Kris, job coach)

Also facilitating emotional connectivity is the use of experts-by-experience such as former participants of SFD activities with a similar socially vulnerable background. They tend to bond more easily with the target group and participants more easily adopt a behaviour that is modelled by a peer in whom they are able to recognize themselves (Bandura, 1998). EbE may be recruited as (assistant) SfD coach, as Nic was:

It suits me. I can use my experience in it, what I've been through myself. I understand these boys and I can just talk to them and it is a lot easier to build something like that. (Nic, assistant coach)

These findings are important because they support pre-existing literature on the cultural intermediary (Crabbe, 2009) and place significance on the background of coaches following similar paths.

Transprofessionalism

An essential task of SfD coaches is to build positive relationships with the participants (Crisp, 2020) whilst also maintaining strong links with the partners and stakeholders from various organizations and administrations. These are complex tasks that transcend multiple professions and cohere with Taylor and McEwan's (2012) transprofessional analysis of coaches who often found themselves taking on different responsibilities they would not expect as traditional coaches. E.g., the welfare landscape in Flanders being densely populated and rather bureaucratic, those in need of support face challenges accessing these services. Study data showed how SfD coaches characterize these transprofessional aspects by acting as an entry point to a whole

network of professional caretakers signposting participants to key contacts and organizations. SfD coaches observe, pick up information and impressions, identify needs in the participants, and either discuss these with other (health, education, employment…) professionals or directly with the participant in order to refer and bridge the gap between the participant and the professionals. In this, SfD coaches work in a transprofessional manner (Taylor & McEwan, 2012):

A community sport worker is actually mainly a bridging person. (...) We're the listening ears in the different neighbourhoods. We hear about the different needs, and we try to respond to them. Our goal is actually to be able to guide people towards the regular offer. (Moha, community sport worker)

Necessary conditions to succeed in connecting the participants to the professionals are that SfD coaches are well informed about the local welfare stakeholders and that (some of) the professionals with whom SfD coaches are making the link, are physically present during SFD activities. If not, barriers for participants to effectively seek help with the right person might not be overcome:

Participants often come to me to talk about their personal problems. (...) But I'm not a social worker and sometimes I say: "Look that's A and B [street social workers] sitting over there; if I were you, I would go and talk with them (...) for they are two fantastic people who certainly will want to help you. And if that [message] comes from me, the coach to whom they look up to, to whom they listen, who they respect, that step is more easily taken. (Sam, coach)

The Social Welfare Council often having difficult relationships with these guys, it is very enriching that one of them is nowadays present at the trainings and comes along to have a cup of soup. (Michael, social worker)

Study data suggest that some coaches focus on sportive aspects and others focus on social coaching from the sideline. While clearly a positive element within the resources provided in the programme, set up and cost of such resources raises questions about sustaining this in the future (Crisp, 2020), especially in times of austerity. Moreover, many SfD coaches mentioned the fact that they have blurring roles anyway, even when assigned only one:

I can follow the idea that there are two different roles [sportive versus social coach]. (…) On the field, the sportive aspect takes the overhand until something goes wrong, a little conflict or something, and then the other role takes over. (...) I think within our projects both roles are often situated within one person, and it blurs a little. (Sofie, coordinator)

Whether SfD coaches are successful in establishing the connection between participants and professionals depends on various factors, such as the educational and professional background of coaches, their personality and interests, their will and ability to network, etc. All this influences coaches' ability to get to know the participants' background, establish a relationship of trust and create a solid network of caregivers around the participant. Thus to some extent there is no guarantee that coaches will embody these transprofessional skills as supported by the following example:

You notice that some coaches lack the necessary social (…) capacity to deal with certain behaviour. And then they themselves behave in a way that is difficult to understand [for participants]. (Samir, youth worker)

As long as there is no formalized training to embody the SfD profile, these various backgrounds and experiences will continue to create variable program results. There are also more structural factors at play in the realization of the boundary-spanning role of SfD coaches. Several respondents mentioned the need for collaboration and networking between all professionals in contact with the target group, to enable an easily realizable objective if working in the same neighbourhood.

It makes it easier to reach people, to reach the target group. Because if you have to do everything yourself, or start from zero, that requires a lot of time. (Yasser, coordinator)

SfD coaches are frontline professionals and can, as such, be considered "street-level bureaucrats" (Lipsky, 1980) delivering services at the interface between agencies and service users – a role often coming with conflicting interests. SfD coaches have to deal with fellow professionals from other agencies delivering services to the same clients (Williams, 2013). From a positive point of view, this can be seen as an opportunity for cost-effective collaboration, increasing the realization of common objectives by stakeholders from different though strongly related sectors, such as

welfare, health, education and employment. To facilitate and lead such collaborative partnerships, SfD coaches need to have cross-sector knowledge, a proactive attitude and political skills such as the ability to network, influence and lobby (Petchey et al., 2007). For even when the boundary-spanning role of SfD coaches ensures that ideas are effectively picked up from the community, once politics enter the policy process this on-going dialogue and collaboration may be at risk of being sidelined (Williams, 2013; Rossi & Jeanes, 2016).

Professional hybridity

Whilst we have highlighted that the lack of professional recognition of SfD coaches may be an issue, the fact that they are not always recognized as professionals comes with advantages as well. SfD coaching is about being professional and not professional in the same time. It requires a certain freedom of filling in the job on the spot, in interaction with, and according to the needs of the target group (Crisp, 2020; Crabbe, 2009). Well-developed job descriptions come with procedures, conventions and possibly a system of sanctions. Evidence from this research suggests that in an improvising way, SfD coaches are 'inventing the job' on the spot (see also Sabbe, Bradt, Spaaij & Roose, 2020), aligning their delivery to the context and needs of the participants as shown here:

How a street social worker deals with participants… There's a sort of link of trust between them. With the Social Welfare Council, it's more … I would not say 'structured', but there're more data that need to be collected, e.g. with regards to their presence, their age, family situation (…) Street workers do things the other way around: they first build a relationship of trust without collecting data and then (...) They start from care for the participant. (Hans, coach)

A rather unconditional approach provides SfD coaches an indirect way to reach the participants, in contrast to the often more complicated roads that professional social workers need to take:

I told them: 'Look, (…) a whole lot of people are aware of what is happening on the field here and just the fact that I come here and do stuff with you makes that the police is not patrolling here on a daily basis. (…) So I ask you to not smoke drugs here around the football field.' (…) And after a while, when they start to respect you, it works: 'Ok, for you I'll do that'. (Tony, youth worker)

It's an open training; we expect no engagement. (…) If you don't come then you don't come. And if we didn't see someone for a while, then we take contact: 'are you ok? We did not see you, is there something wrong?' It's not like [in a sports club]: 'Two more absences and you can go' (Brahim, youth worker)

Our data demonstrate that the role of SfD coaches is about much more than being technical. Coaches constantly need to adapt to context displaying the professional hybridity suitable to the environments they are working within – which is hard to maintain as shows the quote below:

To work in an unconditional manner is a lot more difficult and harder work for the coaches then when setting conditions from the start. That's easy: you work only with who falls within that category of conditions, and that's an easy target group. But if you try to give a place to all things that go wrong, or addictions, and if you work around that, yes, that is very hard work. (…) But I do think it is our job to do that. (Tony, youth worker)

Social work professionals follow certain rules and standards; they act in accordance with what they have been taught during trainings that serve to increase and standardize the quality of the caretakers' duties. However, what represents quality (for example, respectful interaction) for a caretaker might differ from what a participant considers important. It is important that SfD coaches experience the freedom to be influenced by the target group and to be 'taught' other perspectives as part of this professional hybridity. This allows a kind of 'authenticity' appreciated by participants and increasing the probability for creating relationships of trust:

Through being oneself – people feel that – not wanting to come with all the solutions but just offering a listening ear, giving attention and showing interest in who they are and what they're capable of – instead of asking why they were not on their appointment the week before –, (…) one becomes a trust's person more rapidly. Then you can reach much more with them. (Michael, social worker)

I always tell [X]: 'if you feel bad, try to go and take a 20-minutes-walk instead of smoking a cigarette. I do that too, you know'. And then [X] reacts: 'Wow, my trainer does so too, he's a human being too, experiencing difficult times sometime.' (Sam, coach)

While authenticity seems a condition for bonding with participants (Debognies et al., 2018), coaches' personal vulnerabilities might represent both a facilitating and hindering factor in making emotional connection. One EbE expressed the ambiguity of being a role model while struggling oneself with social and psychological vulnerabilities as follows:

At the one hand, I don't want to be a role model because I made mistakes myself in my life; at the other hand I do want to be a role model because I want to show that… it is possible in life and that in the end you can get there. (Nic, assistant coach)

Among the positive effects we witnessed that, whenever an EbE still actively struggled with certain vulnerabilities, other participants dealing with similar difficulties more easily connect with the EbE. Also, for participants it has great meaning to be able to 'switch roles' and to be the ones supporting another instead of being supported:

Yes, that is meaning (…) To be granted a role and to mean something to someone else. (Barbara, SfD participant)

Learning and adapting to context

In Flanders, SfD coaches have very different educational backgrounds, ranging from the traditional sport club coach with an official degree from the Flemish School of Coach Education (Vangrunderbeek & Ponnet, 2020) and/or a bachelor/master degree in (Movement Sciences and) Physical Education, over the (sportive) graduate in Social Work and/or Pedagogy, to the EbE who has or has not received an informal coaching training within the SfD project he/she works in. Currently, SfD coaches lack a clear and formal job description and have little professional recognition (Nols, 2018; Smets, 2019). This issue was brought to life as follows:

We are somehow in the grey zone between social-cultural work, youth work and the sport world. Actually we should profile ourselves: "Look, we are a sector!" And not only stating: "We're strong in this and that", while all those are things we can't implement because of a lack of means, because community sport is still somewhat too vague in Belgium. (Kris, job coach)

Consequently, SfD stakeholders spend a lot of time searching for funds, or run their projects without the means to create the necessary conditions for SfD to have an added value, reducing SfD to just another accessible sports initiative.

I think we from our city are still mainly investing in sports as a goal because it is just not feasible in terms of human resources to invest in sports as a means, making that you accord no specific attention on these goals. (…) If I were allowed to dream then there would be a community sport worker in every neighbourhood. Someone who is there every day, to whom they can tell their personal story outside of the sport session, and with whom they can bond. (An, coordinator)

Because of the combat for recognition, and funds, SfD stakeholders may be reluctant to create partnerships and networks – an important condition for SfD to realize its objectives:

If I could decide upon it, I would want to make a call to end this fragmentation and all these separate little NGOs that receive funding everywhere (…). (Sam, coach)

Data showed that possibilities for SfD coaches to learn and develop varied according to the profile of the SfD actor (e.g. NGO, Social Welfare Council (a local public service, and politically coloured), Foundation…) and the means made available for training:

We invest a whole lot in our volunteers. E.g. they all took an animation course in the Flemish Trainer School and will soon receive a training about dealing with radicalization and drugs policy. So we are really conscious about the added value we have. (Moha, community sport worker)

Since coaches are considered to be great factors of influence in realizing SfD goals, differences in quality and efficacy of SfD projects could be reduced by setting minimum standards to the SfD coach profile through continuous training and development. This may impact positively on both the realization of social objectives through sports and the employability of SfD coaches, being trained to serve as an all-rounder in various projects aiming for social added value. Within the CATCH-project, insufficient evidence was collected to make claims concerning the modalities of SfD coach training (e.g. a uniform SfD coach training course versus a modular training package with topics of interest to choose from; on-site training versus formal training or even online

training; and so forth). With regards to SfD coach training contents, project coordinators, coaches, stakeholders and participants from SfD projects seem to agree on the necessity for SfD coaches to acquire pedagogic skills including positive coaching techniques, conflict resolution and competences with regards to teamwork and networking.

In the beginning I made some mistakes or I was focused too much on the football-technical aspect, while actually I needed to focus a bit more (…) to the group dynamics, the wellbeing of the players. (Jan, coach)

It really is trial and error with every conflict, how are we're going to deal with that. (Senna, street social worker)

One of the interviewees explained how important group dynamics are in SfD, thus how important the ability of SfD coaches to make use of them in favour of the participants' personal development:

In competitive football, the individual serves the group, and if the individual isn't able to follow, he or she is pushed aside. While in SfD, it is the group who serves the individual: the group is there to make the individual stronger (Hans, coach).

Through processes of recognition and role modelling, EbE may function as community champions or catalysts (Skinner et al., 2008), making them strong assets in realizing SfD goals. In several SfD practices, EbE are trained to become an assistant 'community sport coach', however, this is object of criticism among local SfD stakeholders for two reasons. Firstly, the social integration contract in which their training takes place does not offer serious professional perspectives, as illustrated by the following quote:

Opportunities to grow further are lacking and means are limited. (Kris, job coach)

Secondly, there is a lot of discussion on the potential professionalization of EbE. Their experience allows them to easily connect with SfD participants, yet keeping one foot in situations of social vulnerability may impede on their personal growth, and in any case EbE need significant accompaniment when involved in coaching – as mentioned by several SfD project coordinators. Moreover, not only the coaching practice, but also the coaching training can be

hampered by personal, cultural and structural factors (such as personal vulnerabilities, perceived helplessness and poor future work prospects, few educational opportunities, etc.) (Lauwerier et al. 2020).

Regardless the profile they opt for, sport clubs, federations and other providers of coaches need to recognize the holistic needs of SfD coaches and provide educational support to facilitate that process. Such educational support is challenging and requires different sub-steps to be accomplished among coaches (e.g., knowing oneself before being able to know one another, learning to reflect and discuss, etc.) (Lauwerier et al., 2020). In Flanders, where SfD is increasingly considered an effective means to realize social added value, discussion on the 'professionalization' of SfD coaches is on going. While there is a fair consensus among sport and social stakeholders on the need for setting minimum quality requirements (e.g. training all sport coaches in positive coaching and group dynamics), discussion remains on whether it is desirable – if at all possible – to create 'standard' SfD coaches. After all, the SfD field needs flexible coaches who continuously adapt to context and whose tasks and mission are co-defined by the target community and local stakeholders. Besides skills and knowledge, these roles require specific behaviours, suggesting considering a shift in SfD coach training from competency-oriented to identity-oriented, as done in medical education (Arnold, 2020; Ginsberg et al., 2009). Identity-oriented education may be more sustainable, forming professionals who not only act, but also 'feel' like a hybrid, authentic transprofessional. The training trajectory in Case B (cf. methods) was a first step toward identity-oriented training, continuously stimulating trainees to self-reflect on their roles as SfD coach, and how these roles may interact or interfere with their personality, beliefs and experiences.

Reflecting on the 'third space' in SfD

Understanding the role that SfD coaches play within the added value of SfD programs is fundamental if the SfD field is to continue to progress and learn in a reflexive way (Harris, 2018). For whilst we have learnt that in SfD the role of sport is considered a secondary aspect, quite often the premise and immediacy of sport places coaches within the context of sport, making them subsequently a sport coach. However, within an SfD program the role of a sport coach is more than simply delivering coaching sessions, organizing risk assessments and mobilizing

session plans. Yet, quite often coaches find themselves in SfD programs with limited capability to navigate the complexity of what is before them (Spaaij et al., 2018). As a result, they need to culturally immerse themselves and span boundaries, by being an organizer, a persuader and a cultural intermediary (Jeanes et al., 2019).

From our findings emerges the profile of a contemporary new type of coach. Perhaps this profile has been here for some time but it has not been explicitly recognized it as such. It just blends into programs. SfD coaches are not formally social workers or traditional sport coaches. They use the window of opportunity created when spanning boundaries between both worlds and occupying the professional hybridity.

We consider this window of opportunity a 'third space' that is, unlike the first (social welfare sector) and the second (sports sector), rather unconditioned, fostering the possibility of establishing trustworthy relations and a safe experiential environment for growth and personal development. It was critical theorist Homi K. Bhabha who introduced the term 'Third Space', to indicate the metaphoric space where new (hybrid) cultural forms emerge from multiculturalism (Sterrett, 2015). The 'Third Space', the "cutting edge of translation and negotiation" (Bhabha, 2004, p.38.), is a place where we construct our identities in relation to varied and often contradictory systems of meaning (Sterrett, 2015). SfD coaches, as boundary spanners (Jeanes et al., 2019; Williams, 2013), find themselves continuously at the cutting edge of translation and negotiation. This role requires a vast set of skills, such as problem-solving skills, coordination and networking skills, brokering skills. It also requires a deep knowledge of the system, flexibility and a willingness to undertake the emotional labour associated with relational working (Carey et al., 2018).

Above all, SfD coaches are change makers, catalysts, using every window of opportunity to connect with SfD participants, discuss with them their personal goals and assist them in finding ways to realize these goals. Yet, this 'third space coaching' is not easily established and the necessity of the different roles and ability for role-taking requires the building of 'a different mind-set' and the need of accomplishing specific competencies that are probably not captured, or at least only minimally, within current coaching training. More specifically, while different profiles may very well still be needed in SfD practice, every profile would probably require the

training of sensitiveness for working in SfD. A highly educated trainer may need the adoption of a cultural sensitivity and professional hybridity, while EbE may need to familiarize themselves with skills for professional continuation and transprofessionalism. In what follows, some recommendations are made regarding this role taking, competency building, and the shape of the (professional) context that will allow for coaching in the third space.

Recommendations for practice and future research

From the findings appear that organizations mobilizing SfD programs need to recognize more clearly what these programs actually are, and understand the crucial role of SfD coaches in it. Following this understanding, they need to create the conditions for people from the professional space (social workers, sport coaches) and the academic space to enter the third space, where, in continuous dialogue with targeted communities, the desired outcomes, process and progress measures are discussed. Among these conditions may be to ensure that SfD coaches are given training that enables them to work in the modi operandi coming with a boundary-spanning role. Such training does not necessarily need to come in the form of a separate 'SfD coach' education program. SfD scholars argue that development by SfD is best realized when the project is substantiated by a critical pedagogy (Nols, 2018; Spaaij & Jeanes, 2013), in which many social workers are skilled. Whilst it is impossible to turn all social workers into sport coaches, with minimal efforts the classical sport coach training could be adapted to include attention for the boundary-spanning role of coaches. There are different possibilities, and more reflection and stakeholder discussion is needed, to chose the option most fit to the context. A first possibility is to provide more SfD knowledge in classic sport education. This is actually happening in Flanders, where the Flemish School of Coach Education is adapting its courses to the needs of the field, in transdisciplinary collaboration with traditional sports federations, SfD actors and scholars. Secondly, the potential involvement of EbE could be considered, for they are often great boundary spanners, and proven change makers. However, they need to be supported before, and during their uptake of a role as coach. Whether this means that they go through a potential parallel training trajectory, or that they are offered the opportunity to participate in a classic sport coach training via a stepping stone (e.g. accelerated advanced training, adjustment of the conditions for admission…) is to be discussed. A third possibility is to create advanced training that is accessible to both classic sport coaches and social workers with an interest in, or already

working in SfD, and in which the knowledge and competences of both profiles can be shared, and harmonized. Interesting here is that these, sometimes very different profiles, can learn from each other and from each other's professional competences.

Among future research opportunities in the field of SfD is the comparative evaluation of SfD coaches and coaches in other fields, in order to define a generic or transferable coaching profile capable of guiding and accompanying people in socially vulnerable situations to set and pursue personal health goals. Also, while we only briefly alluded to the Third Space theory in the discussion, its strong metaphorical value makes it a potentially interesting theoretic framework for theory-drive SfD research, such as realist evaluations.

Conclusion

Given the increasing use of SfD, it makes sense to ensure that all SfD coaches are provided a 'backpack' with tools for effectively contributing to personal and social development through sport. An essential task of SfD coaches is, before all, to establish an emotional connection with the participants. Only then, SfD coaches can take on a boundary-spanning role, operating in specific modi that we described as transprofessionalism, authenticity and context adaptation. While many social workers have learnt to work in these modi, and acquired important competences through experience in working with the target group, traditional sport coaches, however, work in different modi operandi, given that many have followed a classic sports education and ended up in a mainstream sports club. This makes them less exposed to diversity and social vulnerability, and to the underlying mechanisms of SfD, such as creating a trustworthy environment that allows building positive experiences, trial and error without being punished, taking responsibility, and so forth. Training for SfD coaches should be focused on the modi operandi needed to successfully fill a role of boundary spanner. The modalities of such training have yet to be reflected upon among stakeholders, for SfD coach profiles are varied, thus training needs as well. Just like SfD coaches, training for SfD coaches should be adapted to context and be transprofessional. A flexible and module-based approach may be most effective here.

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Declaration of interest statement

The authors declare that they have no competing interests.

Discussion

Traditional scientific method has always been at the very best, 20-20 hindsight. It's good for seeing where you've been. It's good for testing the truth of what you think you know, but it can't tell you where you ought to go.

— Robert M. Pirsig, *Zen and the Art of Motorcycle Maintenance: An Inquiry Into Values (1974)*

This dissertation is part of the CATCH research project, a Strategic Basic Research (SBO) project studying the mechanisms within sport-plus that may promote social inclusion of people socially vulnerable situations. More precisely the studies in this dissertation focus on how and in which conditions health and wellbeing of socially vulnerable persons can be influenced by sport-plus, and aim at identifying the necessary conditions and potential barriers for these mechanisms to be declined and to be functional. The discussion starts off with a critical appraisal of the main findings. Then follows a section with methodologic reflections, including study limitations and opportunities for further research. At last, before concluding the discussion chapter, some recommendations are made for practice and policy.

Critical appraisal of the main findings

Reflections on the program theory: It's mainly about the 'plus'

Sport-plus has been looked at and its outcomes explained through the lens of different theoretical frameworks. Two of them are particularly popular for explaining why sport-plus works. One is the positive youth development approach (Holt et al., 2017), presented in the Background chapter as an example of a salutogenic model of health. The other is Putnam's social capital theory (Coalter, 2012; Schulenkorf, 2012), referring to 'characteristics of social organizations, such as networks, norms and trust that facilitate action and cooperation for mutual benefit' (Putnam, 1993, p. 35).

Voices requesting a theory of sport for development rose louder in the latest decennium (Lyras & Welty Peachey, 2011). However, Schulenkorf and colleagues (2016) rightfully wondered whether there is a need (and whether it is worthy) to develop a specific theoretical framework for SfD, yet whether combining different existing theories could do the job. The theory (MRT1) developed within the CATCH research project (see Box 1, and Study 1 for more detailed explanation) is not a framework specific to SfD. While MRT1 found inspiration in several existing theories, it cannot be simply considered a combination of existing theories neither, since it has been developed in the heart of a large selection of sport-plus practices, making it a theory grounded in evidence, and thus a contextualized theory.

It is only in the later stages of data analysis and theory development, and because of obvious similarities with what the data told us, that MRT1, rooting in both a socio-ecological vision and a salutogenic vision on health, got manifestly influenced by existing theories, e.g.

referring to its terminology or already validated associations. Among the theories sourced from were various behavior change theories, such as the social-cognitive theory (Bandura, 1986), the self-determination theory (Ryan & Deci, 2000), the theory of planned behavior (Ajzen, 1985), social action theory (Ewart, 1991) and the transtheoretical model (TTM) of behavior change (Prochaska, DiClemente, & Norcross, 1992).

Box 1. MRT1 summarized: sport-plus as health-promoting tool

A long trajectory precedes sustainable behavior change. Sport-plus activities may contribute to a sense of belonging, positive self-esteem and perceived self-efficacy of socially vulnerable groups through various mechanisms that occur in contexts meeting the necessary conditions: in a safe and trustworthy environment, motivational coaching techniques and constructive group dynamics (including role models among peers) are used to engage the participants in physical activity, in group dynamics and – in time – in the larger community. Raising their self-awareness, their mental space to be open to change their own health behavior and their perceived self-efficacy through opportunities to take initiatives and to learn by experience, participants are assisted and increasingly enabled in setting and pursuing their own personal health goals. An environment in which socially vulnerable groups can build successful experiences and responsibility is a necessary condition to achieve the positive outcomes of sport-plus, hence the crucial role of sport-plus coaches in shaping the necessary conditions for participants to enhance their sense of competence and skills, and to build self-acceptance and appreciation.

In the programme theory it is explained that behavioural change takes place in two successive phases. In the awareness phase, a range of cognitive and affective processes builds towards a sense of safety, a sense of belonging, positive self-esteem and perceived self-efficacy. In the action phase, initiative is taken, plans are made and (health) goals are set and pursued. Among the variables determining the course of the behavioral processes from awareness to action are factors at personal level (e.g. the attitudes and beliefs about the desired change, perceived self-efficacy in enacting or maintaining the change, previous experience with the behaviour either directly or indirectly through the processes of modelling, and priority-setting) and contextual (mainly social) factors (Kok, Schaalma, De Vries, Parcel, & Paulussen, 1996).

The early phase in the health behavior change process as observed in the studied sport-plus settings and presented in MRT1 demonstrate that the road towards behavior change is long and winding, and that progression is incremental. People need time to get ready and become willing to change.

This observation is in line with the transtheoretical model (TTM) or the stages of change as identified by Prochaska, DiClemente & Norcross (1992). In the pre-contemplation stage, the concerned individuals are not ready to take action. Traditional health interventions are not designed to meet the needs of individuals who are not ready to change, and this may cause the programs to not reach the intended change outcome. People in the contemplation stage are outweighing the pro's and the contra's, and might remain stuck in this process. They are getting ready to change, but cannot be called upon action right away. Preparation is the third stage, in which people intend to take action; they have a plan. Only then follows the action stage, in which people make specific overt modifications in their lifestyles. Maintenance is the stage in which people have changed and are working to prevent relapse. They grow increasingly more confident that they can continue their changes. Progression through the stages of behaviour change is not necessarily linear; individuals often recycle through the stages. As individuals progress through the stages of change in the TTM, decisional balance (Janis & Mann, 1977) shifts in critical ways, with pro's outweighing the contra's, or vice versa.

Insights from the knowledge-building phase (cf. program theory) show the importance of a stage-based and customized approach. For example, it helps program deliverers to reflect on whether the intervention is targeting people that are ready to change. And if not the case, it urges them to imagine activities that could accompany the target population in growing out of the preparation phase into an advanced phase of change. With these insights comes, as well, the realization that if program deliverers (or policy makers) wish to optimize SfD programs, or add (e.g. health) objectives to be reached through the SfD program, they must not touch the necessary conditions for SfD to be successful (cf. awareness phase).

It is also important to emphasize that, although several successful SfD programs exist, participation in sport-plus activities does not always, nor automatically, lead to changes in health behavior and wellbeing outside the moments of sport and related activities in collectivity. Once back home, for example, it is a lot more difficult to keep up with the plans and health objectives that a person has set for one self. Apart from structural changes (e.g.,

policies targeting health inequity) that are, of course, primordial, regular and sufficiently long exposure to the context in which SfD programs take place, is an important condition for making its effects last outside that context.

For the average SfD participant, healthy living is a hollow concept. Firstly because there are many structural (financial, material, geographical, cultural) stumbling blocks, explaining why for example healthy nutritional habits are much more difficult to acquire than poor nutritional habits. Secondly because goal-setting is not done by people in survival mode, but by those who's primary needs are fulfilled and who have the mental space to reflect on what health and wellbeing means for them and what aspects of wellbeing have, in their opinion and in that moment, priority.

This relates to a last point, being the apparent contradiction embedded in the use of sport for promoting the health of people in vulnerable situations people, i.e., it may seem as if this approach brings in a top-down expectation in something that is mostly shaped bottom-up. It is known that top-down approaches in health promotion do not always yield expected results, and that (in the words of R. Haudenhuyse) "we cannot trick people in becoming (more) healthy" (email conversation, August 17, 2020).

Participatory methods, such as the Participatory Action Research (PAR) used within the CATCH project, mitigate the risk of sport-for-health taking a paternalist turn. Collaborating with all stakeholders from problem defining and program design onward, and not imposing, but empowering, are important measures to improve the success of health promotion programs. We might make the comparison with the concept of 'goal-oriented care' in health service delivery: the care user sets his or her health goals, and the health professional, respecting the choice made, accompanies the care user in realizing these goals – not the other way around. However, this comparison does not fully hold true, for whereas the care seekers seen in health service delivery have already formulated a request for help (though not necessarily the one that the health professional would want to respond to), most SfD participants have not. Moreover, some are so disillusioned with the welfare system that they are very reluctant to formulate a request for help.

The program theory (MRT1) developed in this study was also an attempt to dig deeper into the context needed for enabling individuals in enacting behavior change. An interesting

framework to give a proper place to context factors is the Capability-Opportunity-Motivation-Behavior (COM-B) framework. 'Capability' (**C**OM-B), referring to the individual's psychological and physical capacity (including knowledge and skills) to engage in the concerned behavior, is represented in our program theory by the initial and intermediate outcomes, mainly generated by the first three mechanisms (experiencing a safe climate; being positively coached; taking part in constructive group dynamics). 'Motivation' (CO**M**-B) includes all processes that energize and direct behavior, inclusive of habitual processes, emotional responding and analytical decision-making. 'Opportunity' (C**O**M-B), representing the factors external to the individual that make the behavior possible or prompt it, equals the context in our program theory. Important in our program theory (and recognized by the COM-B framework) is that while both opportunity and capability may influence motivation, and all three (Capibility-Opportunity-Motivation) can alter a behavior (B), behavior can also alter capability, opportunity and motivation. Whatever the direction, fact is that "whether on an individual, organizational, or sector-wide level, change is almost always incremental. This means 'sticking with it,' working through temporary impasses and accepting setbacks as part for the course." (Carey, Landvogt, & Corrie, 2018).

While the CATCH research project required a distinctive study of social inclusion through sport in three distinctive subdomains, being personal development, health and social inclusion, our study data suggest that these subdomains are inextricably linked. Among the health related outcome that we could witness (though did not quantify) while studying a variety of sport-plus activities, were positive behavior changes with regard to drug use, sleep and nutritional habits, and an overall improvement in social and mental wellbeing represented by feelings of connectedness, belonging and self-worthiness.

Our program theory on improved health and wellbeing through sport-plus (MRT1) is only one radar within a larger theory-of-change on sport-plus as a tool for social inclusion. It is difficult to separate it from personal development and social cohesion: they all go hand in hand, as suggested by Figure 2.

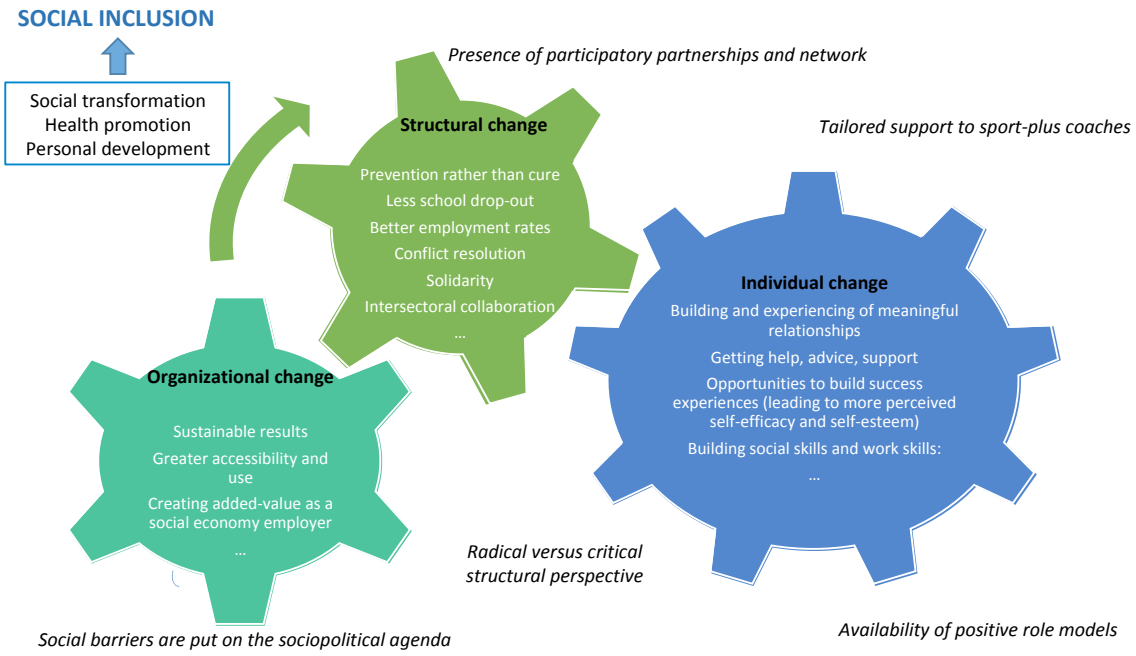

Figure 2. Sport-for-Development or Sport-for-Change: what changes?

Sport-plus carries several change mechanisms in it that can be 'switched on' in the right circumstances – alluding to Dalkin's (2015) metaphor of activation of reasoning as the light created by a 'dimmer switch', where intensity varies in line with an ever evolving context. The 'right circumstances' are needed at microlevel (e.g. availability of positive role models), mesolevel (e.g. participatory partnerships and networks are present) and macrolevel (e.g., social barriers are put on the sociopolitical agenda).

Among the individual change outcomes of sport-plus are the building and experiencing of meaningful relationships; getting help, advice, support with personal issues; opportunities to take initiative and to build success experiences (potentially leading to more perceived self-efficacy and self-esteem); acquiring social skills and work skills; and so forth. Organizational outcomes include a holistic approach offering more opportunities for sustainable results; opportunities to increase the accessibility of the organization and opportunities to create added value as a social economy employer.

More study is needed on potential societal outcome of sport-plus programs (Bailey, 2005; Coalter, 2015) but aspirations among stakeholders are great: reduced health expenditure because of successful prevention; potential declines in unemployment, school drop-out, conflict between social groups or also, in crime rates; opportunities for intersectoral

collaboration (e.g. youth, social welfare, work, education, health) yielding economies of scale and more effectiveness in realizing a common objective, being social inclusion.

The theoretical frameworks above explaining health and social inclusion promoting qualities of sport-plus build on 'portable' (generic) key mechanisms (Dorling, Harris, & Jagosh, 2019) common across, yet not limited to, SfD studies, e.g. the importance of role models and change makers, a participatory approach to program development and evaluation, gradual built-up of engagement and/or responsibilities, and so forth (Schulenkorf, Sherry, & Rowe, 2016). Our studies reinforced the hypothesis that it is not the sport as such, but the context created through sport, that causes sport to positively impact on the participants (Coakley, 1998; Coalter, 2010; Kay, 2009; Schulenkorf et al., 2016; Spaaij, 2012).

This means that we might use other tools than sport-based tools to create an optimal context for experience-based learning. These may very well be tools that interest individuals who are not attracted by sport, e.g. visual arts or music. The ideal context is one that provides opportunities for socialization experiences (Coakley, 1998), not one in which fixed socialization outcomes are pursued, since this may cause the perverse effect of excluding those trailing the field (Coussée & Roets, 2011; Haudenhuyse, Theeboom & Coalter, 2012). The fact that desired outcome follows the 'plus' in sport-plus, and not the 'sport' on such, also implicates that sport-plus programs need to accurately develop their 'plus(es)', theorizing the desired change and design the programs accordingly. The better the 'plus' in sport-plus is developed, the more successful the program will be in realizing the desired social change (Hartmann, 2003).

However, an important footnote comes from the positive youth development school, convinced that "(…) positive outcomes are not so much a factor of programmatic approaches, but evolve from the quality of the relationships, behaviors, and expectations of adults and mentors who interact in a consistent way with community youth" (Petitpas, Cornelius, Van Raalte, & Jones, 2005). Social relationships are considered key mechanisms in sport programs, and one of the most significant factors in effective behavioral change (Sandford, Armoura, & Warmington, 2006), as is the presence of supportive and caring staff within sport programs (Gould, Flett, & Lauer, 2012; Kay, 2009; Spaaij, 2012).

CATCH studies in various sport-plus programs have confirmed the key role of the a supportive and caring climate, which caused our program theory (MRT1) to be focused on the

microlevel characteristics of sport-plus. Still, MRT1 recognizes that coaches act within a certain context, bring their own context in the program, and influence the program context on their turn. Meso- and macrolevel context is considered of great significance in our program theory, even when not manifestly presented in the figure of MRT1, which focuses on the mechanisms motivating individuals to change their health behavior – mechanisms originating mainly at microlevel. The paragraph on the agency-structure debate, among others, elaborates further on the relation between micro and macrolevel factors.

The devil's advocate about sport as a developmental tool

To the paragraphs above, explaining the circumstances in which SfD can lead to better health, and social inclusion for people in socially vulnerable situations, some critical footnotes could be added. Actually, the full realist question is "Why, how (in which circumstances, for whom, when and where) and to what extent can SfD lead to better health and social inclusion for socially vulnerable groups?" The studies in this work were chosen to answer the 'how' and 'why' aspects of the CATCH general research question, yet they may have left the 'to what extent' question somewhat underexposed.

First of all, sport is not everybody's cup of tea. If one does not like to sport – no matter which sport or how it is organized (e.g. in a fun, non-competitive manner), sport will not work as a tool. Moreover, as explained in the Background chapter, sport is not free of exclusionary mechanisms (Haudenhuyse, 2017; Spaaij, Magee & Jeanes, 2014), making the successful use of sport as a tool for inclusion largely dependent of the way the sport activity is organized and coached. We may also wonder whether every sport is suitable for developmental purposes. Surely, an individual sport as fitness or boxing may have beneficial effects on health and wellbeing via physiological and psychological processes (e.g. stress / anxiety relief, further on leading to more self-confidence) (Bailey, 2005; Eime et al., 2013). Yet sports practiced in group may additionally allow for opportunities to practice social and life skills (e.g. how to communicate, to collaborate, to respect, to share, to include…). This is interesting when neighborhood, community or societal development is aimed for.

This does not mean, though, that everyone benefits from group sports: for some, it is just too difficult, too soon, or too stressful to function in a group setting. For others all depends on the sport practiced. One of the interviewees participating in a 'soccer-plus' team, for example,

found that soccer actually was not an appropriate sport to use for development, since women experienced many obstacles to participate, especially if in a mixed (male-female) team. When volleyball or badminton was played, many more female participants wanted to participate. Açıkgöz and colleagues (2020) observed that SfD programs may contradict one another, and that the dominance of soccer and the way it is used can have a neutralizing impact on the capabilities gained through SfD programs. This counterbalances the paternalist idea that sport is good for all, no matter what, even when no additional developmental objectives are realized.

In Flanders, sport is used as a social instrument for disadvantaged youth in a variety of sport-plus programs. Most of these programs describe their aims in a similar manner: e.g. providing a meaningful and fun activity, and promoting social inclusion (Haudenhuyse et al., 2018). Yet to promote social inclusion, disadvantaged youth should not only be provided opportunities to 'stay out of trouble' (Coakley, 2016) and to develop oneself, but also to be linked with society, and to be enabled to take control of their lives, health and personal development, by changing the social conditions that make them disadvantaged. Such empowerment requires what DeLuca calls a 'transgressive conception of inclusion', wherein a dominant cultural group is disrupted, and society recognizes (and appreciates) individual diversity and cultural complexity (Deluca, 2013).

Whether sport can be used as a tool, and which sport then should be used, thus depends on several factors at micro (individual), meso (neighborhood, organization, coach…) and macro (youth, sport and social policies, culture…) level, explaining the need for a customized approach, and explaining differing outcomes, in every other context. It will be determined by the conception of social inclusion underpinning the program; by whether (beside personal development) societal (community) development is explicitly aimed for; by how the sport activity is organized and offered; by the personal objectives and motivations of the participants; by how the coaching is done (on its turn depending on the coaches' educational and cultural background, character, experience…); and by several other factors.

From theory to intervention: Why and how?

Data collected throughout our research recurrently identified the coaches in sport-plus activities to be the most important context factor within sport-plus, and potential catalysts for change in creating the conditions in which health-promoting mechanisms embedded in sport-

plus can be triggered. Data also showed that the capacity of coaches, themselves subject of context, to shape the context to a facilitating environment for mechanisms to be 'fired' is variable. The majority of coaches has no formal coach education and might lack skills or knowledge tools to foster suitable environments for development (Coatsworth & Conroy, 2007). Yet, when coaches have not been trained to facilitate positive youth development through sport, chances are small that life skills are taught in a systematic way (Petitpas et al., 2005). For life skills enabling participants to succeed in their living environments should not only be used in sport but also transfer to non-sport settings and therefore need to be taught intentionally in an effective manner by competent coaches (Camiré, Forneris, Trudel, & Bernard, 2011; Danish, Forneris, Hodge, & Heke, 2004; Danish & Nellen, 1997; Larson, 2000).

This urged practitioners, in dialogue with action researchers, to reflect on the design and implementation of a training trajectory for coaches that would stimulate coaches' reflexivity and broaden the panoply of experiential opportunities that coaches can create for sport-plus participants. The participatory process, in which the insights of theory developed within the first phase of the project have led to action, *in casu,* the training intervention, is illustrated in Figure 3. Reflections on the use of a realist perspective within participatory action research can be found further down in the section 'Methodological reflections'.

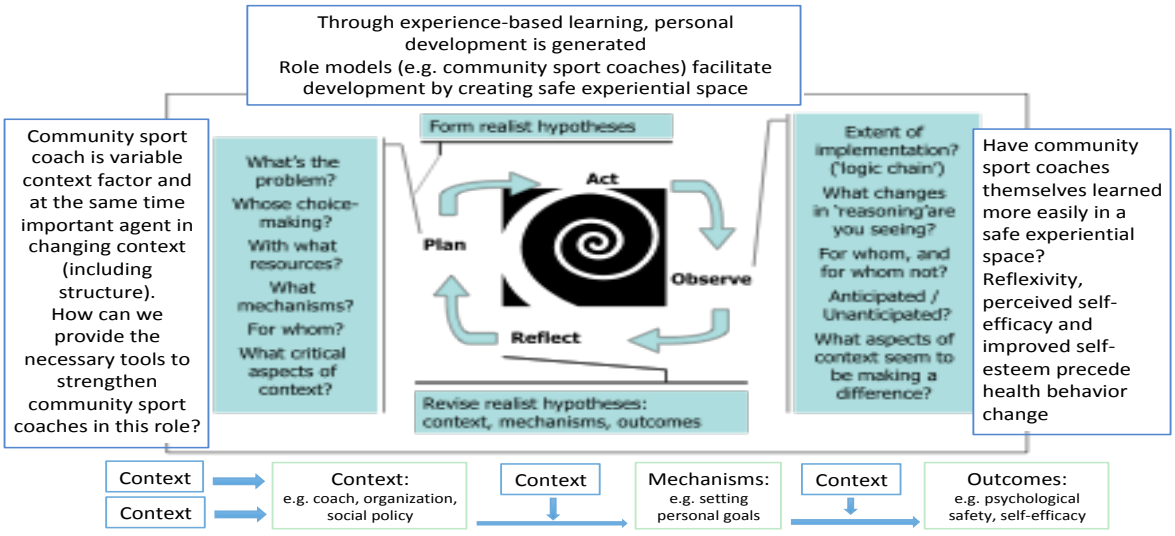

Figure 3. Realist action research as applied in the educational intervention for community sport coaches (Study 2). Adapted from "Using realist action research for service redesign," G. Westhorp, K. Stevens and P.J. Rogers, 2016, *Evaluation, 22*(3), p. 365

A full realist evaluation of the outcome of the intervention going beyond the scope of the CATCH research project, a realist-informed process evaluation was done. In this evaluation, the focus was on intermediate outcomes, hereby testing the realist hypotheses made in Study 1. The Community Sport Bruges training program was built in such a manner that essential mechanisms of sport-plus would be 'switched on', e.g. by creating a psychologically safe learning environment for the trainees, by making use of role models and constructive group dynamics and by stimulating reflexivity. Because of the particular set-up of the training trajectory, in which sport-plus coaches with a background of social vulnerability are taken on a similar track towards personal development and health goals setting as the participants, the process evaluation as explicated in Study 2 thus provided indirectly some input to revise the realist hypotheses of MRT1. It reinforced, among others, the idea that experiential learning needs to take place in a psychologically safe environment.

The coach: Agency changing structure?

Theory developed over the course of the first two years of the CATCH research project showed that the coach is a crucial factor of success when using sport as a tool for development. The coach steers the ship, keeps an overview of what is needed and shapes the context to a facilitating environment. With that in mind, we stumble upon a decennia-old debate, stirring most, if not all, health-promoting interventions: is it mainly social structure (society, regulations, meso- and macro-level factors influencing, limiting or facilitating the available choices and opportunities) or rather agency (the individual acting autonomously, as a free agent) determining the outcome (*in casu,* behavioral change in health)?

Throughout this research, and more specifically in Study 4, we have described the coaches as powerful agents, at the one hand fully determined by their own unique mix of interactions and experiences within certain social structures, while at the other hand determining themselves a substantial part of the context in which other agents (sport-plus participants) will reason. With that point of view, we positioned ourselves in the center of the agency-structure, attaching considerable importance to social structures, while believing in the force of reasoning, that we do not consider an exclusive agent's affair. For, as Anthony Giddens (1979) framed it: "Every person is born into an already constituted society, and every person is only one individual in a system of association involving many others".

Giddens made an interesting compromise in the agency-structure debate through his structuration theory stating that social action cannot be fully explained by the structure or agency alone, since both have a recursive relation: the individual's autonomy is influenced (facilitated and/or constrained) by structures, and structures are either maintained or adapted by agents. Social action, thus Giddens (1979), is born from the processes that take place at the interface between the actor and the structure, called 'structuration'. Actors operate within a context (an assembly of rules produced by social structures) and will reinforce structure only when complying by these rules. Yet, when acting outside the constraints social structures places on them, agents may alter social structures (Giddens, 1979). No need for a determinist view on social structure hence, for "if the social structure restrains some dispositions to act, it creates others" (Merton, 1968). In that regard, G. Williams argues: "the social structure is not like a building that protects or imprisons the seething desires of human nature. It enters into human knowledge, desire and action, creating the dynamics for change" (Williams, 2003).

Giddens' concept of 'structuration' helps us to understand what sport-plus actually is, and how it functions: as an interface between actors and various social structures, in which the dynamics of change are created. The SfD coach is, more than just an actor, a personification of that interface. He/she influences and shapes the context in which participants can grow and strengthen their resilience. This concerns micro- and meso-level context but possibly also macro level context, albeit in an indirect manner, e.g. as a member of a sport-plus partnership, or as a militant lobbying at higher levels to make a change.

While sport-plus effects with regard to health are mainly visible at micro-level in the form of strengthened resilience – and alongside that same continuum, health capability –, it has been argued that resilience is not an individual trait, but related to the vulnerability and protective factors at play in one's environment (Luthar, Cicchetti, & Becker, 2000; Ungar, 2006). Resilience is considered a quality of the environment as much as the individual. It urged some scholars to state that it is better to 'change the odds' than to resource individuals in 'beating the odds', at least when the latter happens in an environment that is not providing chances on development (Coalter, 2013; Seccombe, 2002). Seccombe argues that: "Resiliency cannot be understood or improved in significant ways by merely focusing on these individual-level factors". Instead, "careful attention must be paid to the structural deficiencies in our society and to the social policies that families need in order to become stronger, more competent, and better functioning in adverse situations" (2002, p.385). Moreover, one could consider the

degree of resilience displayed by a person in a certain context to be related to the extent to which that context has elements that nurture this resilience (Gilligan, 2001).

Sport-plus coaches thus can be catalysts, change makers, when they color outside the lines. Taking part in, and determining large bits and pieces of the context in which sport-plus activities are organized, sport-plus coaches acting outside the constraints that structure poses on them, can set fire to resilience-promoting mechanisms within a sport-plus context. An example is the sport-plus coach still welcoming the participant who did not – could not – stick to the agreements made, and who therefore got suspended or excluded from different social structures in which he or she was involved. Still being believed in, and, after failure, still receiving chances to build positive experiences, is fertile ground for growing personal development, including improved health and wellbeing.

Methodological reflections

Realist grounded theory: an oxymoron?

To increase the researchers' understanding of health promotion through community sports, we drew on assumptions related to complexity theory (Plsek & Greenhalgh, 2001). Following a complexity perspective, social problems are embedded in different layers of complex adaptive systems (CAS), which are time-bound, dynamic and open systems marked by emergence, and are therefore capable of self-organization (Buckley & Schwandt, 2008; Byrne & Uprichard, 2012; Cilliers, 1998, 2005). Community sports settings have all the characteristics of a CAS: open and dynamic, they evolve, change and self-organize according to the needs and interests of their participants. Studying this setting requires insights at individual, relational and structural levels that influence health and wellbeing in vulnerable populations. Scientific realism provides excellent opportunities to acquire such insights.

The research strategy we used to develop the first program theory (MRT1) clearly draws from realist thinking yet also uses steps from the Grounded Theory Approach (GTA), a commonly used methodology for theory development. GTA can be used for theory-building, aiding conceptualization from data 'so that the end result is a theory, that the scientist produces from data collected by interviewing and observing everyday life' (Morse et al., 2009. While empirical applications of the GTA in health sciences are largely inductive, this is a narrow interpretation of the classical GTA, originally developed by Glaser and Strauss in 1967 as a

post-positivist mix of inductivism (i.e., open and flexible research design, data collection in the natural environment, and data analysis starting from raw, unstructured data) and deductivism (i.e., tendency for a systematic approach, verification and theory-building) (de Boer, 2011; Glaser & Strauss, 1967).

In Study 1, GTA is actually used as an extra step to build theory from case studies in an overall realist inquiry study design. This is possible because realist inquiry has no preconceived preference for any method. Instead, the subject of research determines the method's choice. Pawson and Tilley, influential realist scientists who were among the first to operationalize realist thinking, argued that realism is not a research technique, but rather a 'logic of inquiry that generates distinctive research strategies and designs, and then utilizes available research methods and techniques within these' (Pawson & Tilley, 2004).

The illustration of theory building in the field of health promotion for socially vulnerable populations in Study 1 shows that grounded theory as a method and realism as a paradigm can be part of the same complex puzzle. The study has an overall study design inspired by realist inquiry and uses the GTA for theory building. While some scholars argue that it is not possible to reconcile the GTA with realism due to a different underlying scientific paradigm, we wish to argue for a potentially fruitful, pragmatic marriage of the two.

A first argument for a combination of the two lies in the question whether realism should be considered a methodology or a 'philosophy in search of a method' (Yeung, 1997). While a method is a tool to rigorously collect, analyze and report on data in the most systematic way available to the researcher, the research paradigm or perspective only enters the game the moment data are analyzed and interpreted. In a realist-inspired GTA, the positivist view of social constructs existing as an observable reality external to human reasoning is accepted, while extensive attention is given to individual meaning making (Oliver, 2012). It holds the middle between positivist and constructivist thinking.

The method used in Study 1 is similar to what has been called *'critical realist grounded theory'* (Hoddy, 2019; Oliver, 2012). Especially in the fields of social work and health, dealing with complex social problems, the combined inductive/deductive and retroductive approach as applied in realist grounded theory seems useful for several reasons (Bunt, 2018; Lee, 2012; Oliver, 2012). First, it embraces the complexity inherent to societal problems via

an elaborated contextualization of identified social changes. If the main assumption of realist inquiry is to obtain detailed information on all context factors, either triggering or hampering potential mechanisms that would lead to change, it urges the researcher to 'ground' the developed theory in its specific context(s), which makes the GTA a particularly suitable method. Second, the GTA sticks to raw data but also allows for deductive comparison with existing theory. This is a necessary step in bringing theory to a more abstract level (e.g., developing a middle-range theory). Lastly, combining GTA with a realist perspective may strengthen data validity and reliability because data are collected and analyzed in practice, in real-life settings. Since complex studies do not allow controlling the variables, gathering knowledge about the context in which the identified mechanisms function is important. It enables program and policymakers to design or adapt programs accordingly.

Yet, although the study data were grounded in practice, analyzing them was a process of constant cross-pollination, both because of the transdisciplinary approach of the project (bringing together practitioners, academics and policy makers) and because of the fact that social scientists are always in contact with and influenced by existing theory, even when not aware of it (Dhand, Luke, Carothers, & Evanoff, 2016). The resemblances between Context-Mechanism-Outcome configurations grounded in real-life setting data at the one hand, and existing health promotion theory at the other hand, reinforced the reliability of the study data and oriented the shaping of program theory.

Participatory action research using a realist perspective

For the studies in this dissertation, we have used a realist perspective, matching well with (participatory) action research because of a common focus on context (Westhorp, Stevens, & Rogers, 2016). While realist methods originate in evaluation practices, in action research they are not only useful in the evaluation phase but also in the planning phase, informing the design and implementation modalities of interventions (cf. supra - Fig. 3). Thus, the realist theory (MRT1) developed in Study 1, has informed the development and realization of the intervention as described in Study 2, and from that intervention, lessons were learnt through a realist-informed evaluation, that were useful in revising or strengthening the hypotheses of MRT1.

There have been several advantages in combining realist methods with participatory action research. Working in dialogue with practitioners and participants of sport-plus practices has

facilitated detailed knowledge of the context; it has allowed setting realist training objectives and timely revision of these objectives; and it has helped the trainees to adhere to the delivered training, since training content was built upon their interests and training modalities were chosen in consultation with trainees.

In action research, there is often thought to be a 'right' response to specific scenarios, delivered by the 'expert' practitioner (Boutilier & Mason, 2007; Ruch, 2002). This approach, however, does not permit an understanding of the local production of health that is required in order to develop more appropriate strategies for tackling social inequalities, such as strategies involving reflexivity with regard to the agency, practices and social structural location of practitioners as well as the vulnerable populations one seeks to serve (Frohlich & Potvin, 2010).

In our action research, the approach and mindset of both practitioners and researchers involved in the training development and delivery was open and flexible, favorable of changes proposed all along the process (and not only during the conception phase), which contributes to success in a genuine participatory approach (Kidd & Kral, 2005). In accordance with the critical need for researchers and community groups to build mutually beneficial and respectful relationships (Spaaij, Schulenkorf, Jeanes & Oxford, 2018), the researchers involved in the CATCH health studies tried to increase the level of participation by taking the time to experience the SfD context and by taking the perspectives and knowledge of local stakeholders (participants, coaches, social workers…) seriously. For example, both the planning and the contents of the training in Community Sports Bruges (cf. Study 2), have been adapted after four sessions, because the involved researchers / trainers picked up signals of an unexpressed need and therefore invited participants to express their thoughts and concerns.

Participation, however, should not be limited to the liberty for stakeholders to speak up. It is important that researchers dare to let go of their logic and the plans they have drawn up, and that they, after discussing the expressed interests of those involved, also act according to those interests. This may cause some unease in researchers and the feeling of loss of control, which can be challenging. A true power-shift whereby participants are empowered to analyze their own situations and to design their own solutions (Kay, 2009; Nicholls et al., 2011) remains a tough nut to crack for many researchers, for it involves the affirmation that people's own

knowledge is valuable and a repositioning of the role of the researcher from director or evaluator to facilitator and collaborator (Spaaij, Oxford & Jeanes, 2016). In that regard, Spaaij et al. (2018) encourage researchers to be critically aware of how they are facilitating involvement and to what degree participants are genuinely co-constructers of the process. This is all the more important in SfD research because the risk of reproducing power relations is particularly significant in SfD contexts, because of the structure and culture of sport situating professional knowledge as superior to participants' knowledge (Luguetti & Oliver, 2017).

Another persistent challenge in participatory research, especially when it involves an intervention (PAR), is that it is "inherently open-ended, messy, and long-term" and, as a result, may lack the support of academic institutions that are characterized by a 'culture of speed'" (Spaaij et al., 2018, p. 29). In the remediation of the potentially conflicting relationship between participatory or activist research and traditional academic culture, Spaaij et al. (2018) see an important role for senior scholars with more established projects and secure funding. They are in a better position to change the status quo, to train, mentor, and support junior scholars and to "navigate dual accountability to activist community organizations and academic institutions" (Spaaij et al., 2018, p. 35).

Study limitations and future research opportunities

The contextualized and tailored approach to sport-plus practices has focused attention on lower context levels (micro- and meso-level). Yet factors at higher levels fully determine the context at micro level. If sport-plus is to realize lasting change, its potential for social transformation should be studied, which means that the unit for analysis needs to shift from the individual to, e.g., the community.

Darnell and colleagues rightfully commented that research on SfD mostly uses little politicized social concepts and theoretical frameworks, such as social capital theory and positive youth development, and such as the concepts embedded in our program theory, creating the impression that development through sport is achievable if only the right tools, conditions and processes are deployed (Darnell, Chawansky, Marchesseault, Holmes, & Hayhurst, 2016). This may be seen as a somewhat utilitarian approach though, overlooking the structural imbalances determining people's reasoning on the resources offered through SfD-programs. Therefore, Haudenhuyse et al. (2018) suggest using frameworks more apt to

explain social transformation, such as those based on political economy, critical pedagogy and governmentality. In the same line, Schaillée, Haudenhuyse, & Bradt (2019, p.11) encourage "to think and act on structural exclusion and inclusion beyond the individual, interpersonal or programmatic level", hence to build more deeply on transgressive and dialogical conceptions of social inclusion ((Deluca, 2013) to make SfD research and practice progress.

Since sport-plus is a complex intervention, and social exclusion a complex problem, it is quite a challenge to measure the impact of sport-plus, and to assign effects on social exclusion to sport-plus related mechanisms and processes. In this respect, there are interesting research perspectives to be explored. Future research opportunities include reflections on what could be relevant and precise indicators to measure effects in terms of health, health determinants and health equity. In regard with outcome measurement, it would be interesting to follow up on sport-plus participants (e.g. through a cohort study), in order to monitor long-term and structural effects of sport-plus, including changes in social inclusion. Realist methods or other methods drawing from complexity thinking will definitely have a place in such studies, so that measured effects can be explained within their context and be allocated to specific sport-plus, or other, mechanisms. Concretely, as an extension of the CATCH project, the outcome of the intervention implemented in Bruges (cf. Study 2) on sport-plus participants could be studied. In parallel, this evaluation would represent another test of our program theory claiming that an optimal experiential learning environment (a safe context, with constructive group dynamics and positive coaching) motivates participants to set goals for behavior change leading to improved health and wellbeing.

Other research opportunities lie in the identification and study of those cases in which sport-plus failed in having any positive effect on health promotion, or also, the application of the transferable mechanisms of sport-plus to another domain than sport-plus (e.g. art), in order to evaluate whether and under what circumstances the desired effects are still triggered. In this way, the arsenal of effective instruments for health promotion can possibly be expanded, in order to also reach the part of the target group that cannot be reached through sport-plus.

Recommendations for practice and policy

As discussed throughout this dissertation, sport-for-development leads to 'development' only when the right circumstances are created. This requires thoughtful program reflection and

planning. Sport-plus practices need to ensure that coaches, as most important context factor and agent shaping the context for participants, are sensitized on how and in which circumstances health promoting and developmental mechanisms within sport-plus can be triggered.

A training trajectory can be advantageous for harmonizing knowledge, competences and attitudes of sport-plus coaches with regard to these matters, and for opening up a dialogue between coaches with very different backgrounds, such as the classical sport coach aiming for improved physical performance, and the social worker using sport as a tool to reach the hard-to-reach adolescent living in precarious conditions. In the existing courses of the concerned professional profiles (master in sports and movement sciences, sports teacher, bachelor social work...) and in the training curricula of Sport Flanders, a sport-for-development module could also be integrated (a process already underway).

Sport-plus activities providing a momentum for various personal development opportunities, ideally representatives of all sectors involved (e.g. a social worker, youth worker, employment officer, nurse…) are present at the time of activity, so that low-threshold referral is possible. All these stakeholders should be sensitized on what sport-plus entails, and how it could lead to common objectives.

Transdisciplinary projects, wherein practitioners and researchers of various disciplines collaborate to realize a concrete and desired change in social practice, have shown to be a potentially effective way forward (Lang et al., 2012; Haudenhuyse et al., 2020). Researchers have access to accurate information, important to correctly define the social problem, and theorize with practitioners and participants on their goals, in order for all stakeholders to reflect on, and co-create, efficient tools, methods and processes to realize these goals.

Moreover, intersectoral collaboration between social workers, employment officers, youth workers and health professionals, as taking place in several sport-plus practices, reveals many objectives in common. To increase and sustain successful realization of these objectives, formalizing this collaboration through partnerships and shared project funds is necessary. Sport-for-Development is an intersectoral action in the sense that it represents the coordination of various sectors towards the improvement of health equity. WHO (1997) defined 'intersectoral action' at the 1997 World Health Organization's Conference on Intersectoral Action for Health as "a recognized relationship between part or parts of the

health sector with part or parts of another sector which has been formed to take action on an issue to achieve health outcomes (or intermediate health outcomes) in a way that is more effective, efficient or sustainable than could be achieved by the health sector acting alone".

Health-in-all policies are the most administratively integrated, formal and systemically focused form of intersectoral action (Freiler et al., 2013). Despite an ever-increasing interest in health-in-all policies (e.g. Sustainable Developmental Goals), however, many intersectoral actions, including SfD, are too ad hoc in nature to be considered a true health-in-all policy. For health-in-all policies to be effective, long-term commitment and vision, e.g. in the form of national strategies, legislation and utilization of international momentums, is needed (Stahl, 2018). Therefore, it is recommended that SfD would be coordinated by formal structures and mechanisms of governments (although, evidently, involvement of nongovernmental actors, including those from academic, private, and community/civil sectors, is crucially important) and that it would be explicitly linked to structural or long-term governmental policies or agendas (Feiler et al., 2013). Also, as rightfully suggested by Stahl (2018), health-in-all policies require the availability of data on health determinants and analyses of the links between health outcomes, health determinants, and policies across sectors and levels of governance, and they require good health literacy among the public, policymakers, media, and civil servants, in order to understand all sectors' roles in promoting health, wellbeing and health equity (Stahl, 2018).

This suggests that there is still some work to be done before SfD can be incorporated as a health-in-all policy, for despite increasingly clear insights in why, how, when, for whom and to what extent sport-plus may lead to health and personal change, the health outcome of SfD is difficultly quantifiable.

Conclusion

To acquire sustainable change, there is a need for tailored, personalized health promotion programs that deviate from the mainstream. These programs should be developed in co-creation and tested within the context in which they are relevant. Sport-plus programs are, or can be, an example.

Sport-plus comes in all forms and colors. During the four-years CATCH project, we studied a variety of sport-plus practices and have met many motivated and enthusiastic sport-plus coaches, participants and stakeholders. Although there are many success stories, participation in sport-plus activities does not always, nor automatically, lead to lasting changes in health behavior and. SfD coaches need to make intentional use of motivational coaching techniques, and this in an environment perceived as psychologically safe by participants, and potentially still to be created. The essential mechanism of sport-plus, or Sport-for-Development, is that it creates or may create (in the right circumstances) an ideal experiential learning environment, inviting participants to give it a try, to grow a reflexive attitude, and to become motivated to define and set personal health-related goals, and to live up to them.

Given that SfD requires the intentional use of sport as a tool to realize developmental goals in complex contexts, there is a need for reflexive SfD coaches who can effectively contribute to personal and social development through sport. To guide participants in their pursuit of personal health and development goals, SfD coaches need to establish an emotional connection on which growth opportunities can be grafted. This requires a specific coach profile, characterized by transprofessionalism, authenticity and context adaptation.

Equally important and yet underrepresented in studies on the impact of SfD on health, is the potential for social transformation embedded in SfD programs. If equity in health is what we aim for, we should shift our focus from the individual to the community level, shift up a gear in designing and realizing health-in-all policies, and make transdisicplinary (thus intersectoral and participatory) working the standard modus operandi.

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Summary

A growing group of people in our society is confronted with social exclusion in multiple areas of life, such as education, employment, health and leisure. Moreover, interventions aimed at social inclusion face multiple challenges such as short-term project financing, lack of possibilities to monitor, evaluate and prove effectiveness, difficulties in reaching the most vulnerable groups, and a limited understanding of the target group. Sport is seen as a potentially rich context for reaching hard-to-reach young people at risk of social exclusion. Over the last decades, an increasing number of studies have shown that in addition to the known individual benefits of sport participation (e.g., improved fitness, reduced anxiety, better self-control, more self-esteem and self-efficacy, social skills and connectedness, especially in socially vulnerable groups), there may also be positive effects of sport on the level of society (e.g., more social cohesion, less crime). Meanwhile, the potential of sport to positively influence the resilience of participants has also been extensively documented: via intermediate outcomes of sport, one can work towards more inclusion, and enable people to strive for more 'health' themselves, defining the term according to their own values and norms. However, these benefits are not inherent in all sports activities, nor do they come naturally. The benefits must be planned, as objectives in the program, and the activities must be organized in such a way that they work towards these benefits. So it is no longer about 'sport for sport', but about 'sport as a means'. When sport is not an end in itself, but rather a means to achieve other goals, then we speak of Sport-for-Development (SfD) or sport-plus. Regular sport and 'Sport-plus' have a different logic and underlying 'theory-of-change'.

This dissertation aims at identifying the underlying mechanisms of sport-plus that can promote the health of socially vulnerable population groups, and the necessary context factors for the emergence of these mechanisms. It is part of a four-year (2016-2019) Strategic Basic Research project called CATCH (acronym for *Community sports for AT-risk youth: innovating strategies for promoting personal development, health and social CoHesion*), developed by three university departments in Flanders, Belgium, and funded by the Agency for Innovation and Entrepreneurship (VLAIO). CATCH is a transdisciplinary project in both the design and implementation of the interventions, i.e. it brings together not only researchers from different domains, but also policy makers and practitioners. The aim of the CATCH

research project was to provide crucial new insights that could improve programs and policies aimed at social inclusion. In a first phase, knowledge was acquired about how, why and in what circumstances sport-plus can influence the social inclusion of vulnerable groups. In a second phase, this knowledge was translated into practice by means of an intervention set up in a Flemish sport-plus practice that had a concrete question regarding the optimization of practice.

Within the framework of this thesis, four studies were set up. **Study 1** is the result of the first phase (2016-2017) of the CATCH project. It describes the development and content of a theory on how, why and in what circumstances sport-plus can function as a health-promoting lever. The theory was built on the basis of a rich qualitative dataset collected in different SfD-programs in three Flemish cities, each in a different province. **Study 2** consists of two sub-studies and describes the development, and afterwards the implementation and evaluation, of a pilot intervention in sport-plus that aims to optimize the realization of the objectives of sport-plus. In this intervention, SfD coaches in training are involved in a participatory training program, with the aim to stimulate the coaches to self-reflection, and to encourage them to recognize, and make use of, functional mechanisms in sport-plus. Theoretical assumptions (insights from the first phase) were woven through this training trajectory, so the implementation and especially the evaluation of this intervention yielded new insights to refine and adapt the first theory. At the same time, the theory from study 1 was also tested in a non-interventional setting: in **Study 3**, one specific sport-plus organization served as a comparative case. Interesting in this case study was that the concerned organization had the employability of sport-plus participants on the labor market as its final goal, and improving wellbeing and health turned out to be a side effect of the project. The mechanisms that enabled the organization to realize the set goals were the same as those identified in the theory of study 1. Finally, **Study 4** offers a general reflection on the SfD coaches who, as program deliverers, are crucial for the viability and realization of the SfD goals. In the latter study, all data collected earlier in the project are reanalyzed in order to identify necessary characteristics, skills and knowledge of the ideal SfD coach, and to identify determining contextual elements that contribute to the success of SfD coaches in realizing the goals of their program.

The studies in this thesis make use of a realist research perspective, which attempts to uncover the invisible causal forces ('mechanisms') behind empirically observable patterns or changes

in those patterns. This is done by means of 'retroduction', a term that refers to the backward movement starting from observed patterns and looking back at what these patterns might have produced. Realist research methods show that the context in which an intervention is embedded is vital for understanding the underlying mechanisms of the social problem and the potential of the formulated response to it. Therefore, the thorough study of this context in all its facets is the key to the success of a complex intervention. According to the realist perspective, the functional mechanisms of an intervention, which produce results, do not result from the input of certain resources and activities, but from the reactions (reasoning, actions) of the stakeholders to this input, and the way these reactions interact with the context. This explains why the outcome of complex interventions is always different, and why successful interventions are not necessarily successful when developed in a different context/setting with different resources and actors. The context, and the interaction between context and mechanism, is essential; it triggers the action and the change in social practices. The relevance of a realist research perspective lies in the fact that it provides program and policy makers with information about the context factors that trigger, or just slow down, desired social mechanisms, allowing programs and policies to be designed and/or adapted accordingly. This research perspective is therefore a logical choice for Strategic Basic Research, which aims to make concrete recommendations for improving practice.

The insights gained from this dissertation can be summarized in three points.

1. From sport-plus to sustainable behavioral change requires time and the right conditions

Sport-plus activities can contribute to a sense of cohesion, a positive self-image and perceived self-reliance in socially vulnerable individuals, but this requires a context that meets some necessary conditions. SfD participants should first have the opportunity to bond emotionally with fellow players and coaches, and this is only possible when they experience a sense of psychological safety. The latter occurs when the environment is seen as reliable and predictable (people know what to expect from the activity and from those involved) and when participants can drop off their often heavily charged personal backpack and experience mental space to look ahead, take control of their lives and set goals to improve their wellbeing. In a psychologically safe context, SfD coaches use motivational coaching techniques and constructive group dynamics (including role models) to involve participants in physical activity, in group dynamics and - in the long run - in broader social events (often locally

anchored in a specific neighborhood or community). In this way, the sport-plus event becomes an experiential learning school where participants are given the opportunity to take initiative and, by trial and error, build up success experiences. As their self-reliance and self-confidence grows, participants are guided step-by-step in setting and pursuing personal health goals. An environment in socially vulnerable persons can grow at their own pace is a necessary condition for achieving the goals of SfD, hence the crucial role of time, and of Sfd coaches who know how to decline the mechanisms of SfD and to shape the context as such that the necessary conditions for achieving SfD goals are met. Our studies reinforced the hypothesis that it is not the sport as such, but the context created by sport-plus that has a positive influence on the wellbeing of the participants. Sport-plus incorporates a number of change mechanisms that are activated under the right conditions, such as the light of a dimmer switch, the intensity of which varies according to the context in which the program is implemented. The ideal context is one that offers opportunities for socialization experiences, not one in which fixed socialization outcomes are pursued. Examples of 'the right circumstances' are the availability of positive role models (micro level), a common project framework supported by multiple partners (meso-level) or the structural use of sport as a school for social skills, both in the education sector and in the employment sector (macro level). In order for sport-plus initiatives to succeed, it is important that investments are made in the context of sport-plus and that these investments are spread over time so that sport-plus projects can fulfill the preconditions for achieving their objectives. Creating a safe and constructive learning environment is a process that requires time and the ability to maintain the same people (coaches, coordinators) and the same program in the medium to long term.

2. The SfD coach is a decisive context factor, and simultaneously subject to context

Quite early in this research it became clear that the coach is a crucial success factor when using sport as a means for personal and social growth. The coach steers the ship, keeps an overview of what is needed and gives shape to a facilitating environment. On the one hand, the coach is a person formed by his own unique mix of interactions and experiences, on the other hand, the coach is a decisive actor who can determine a substantial part of the context in which other actors (including the sport-plus participants) are involved. In this way, the SfD coach becomes a strong determining factor for the results of SfD programs. When SfD coaches also act outside the constraints imposed by social structures, they can change those social structures. Sport-plus can be seen as an interface between actors and different social

structures, creating the dynamics of change. The SfD coach is, even more than an actor, a personification of that interface.

Based on the above insights, in close cooperation with SfD coaches, a training program was developed to enable coaches to successfully shape SfD projects. The training had to be extremely accessible for this pilot phase, since the target group of this pilot project consisted of coaches in training who themselves had a background in social vulnerability and were employed in a social integration contract that combines training and employment. This training design allowed testing the theory developed in the first phase in practice. After all, the coaches in training were taken on a path on which they themselves would then take the SfD participants. In this way, space and time were created in the training path for creating a safe and reliable environment before working on self-reflection and addressing difficult or sensitive topics. A realist process evaluation of this intervention confirmed that a safe learning environment contributes to a 'right mindset' to facilitate the learning process. The coaches-in-training also reported an increased awareness of health and wellbeing and a greater sense of responsibility to act as a role model for at-risk youth belonged to the results of the training program. The process evaluation of this intervention showed that different variables (e.g. precarious living conditions or reduced mental well-being) could hamper the processes and outcomes of the training program, as is the case for participants in sport-plus activities.

3. Health promotion approached differently: transdisciplinary, tailor-made and context-specific

The realist research perspective used shows that social problems such as social exclusion and health inequality are formed in a specific context, and solutions must be sought within that context. SfD can contribute to a better wellbeing of socially vulnerable individuals if the right conditions are created. This requires a well thought-out project cycle. Transdisciplinary projects, in which practitioners and researchers from different disciplines work together to achieve a concrete and desired change in social practice, have proven to be an efficient way forward. Researchers have access to accurate information that is important to correctly define the social problem, and can therefore help practitioners to theorize their goals and identify efficient tools, methods and processes to achieve these goals. Moreover, the collaboration between social workers, employment mediators, youth workers and health professionals, as it takes place in different sport-plus practices, shows that there are many common goals. In

order to increase and support the successful realization of these goals, it is necessary to formalize this intersectoral cooperation through partnerships and shared project funds. As an intersectoral action, SfD can achieve (intermediate) health results in a more effective, efficient or sustainable way than what could be achieved through action in the health sector alone.

All those involved in sport-plus practices need to be aware of what sport-plus means and how it can lead to the common goals of each partner. A training program can be beneficial for harmonizing knowledge, competences and attitudes of sport-plus coaches with regard to these matters, and for opening up a dialogue between coaches with very different backgrounds, such as the classic sports coach who strives for better physical performance, and the social worker who uses sports as a tool to reach hard-to-reach individuals. In the existing courses of the concerned professional profiles (master in sports and movement sciences, sports teacher, bachelor social work...) and in the training curriculi of Sport Flanders, a sport-for-development module could also be integrated.

Challenges and avenues for further research

The contextualized and tailored approach to sport-plus practices has focused attention on lower context levels (micro- and meso-level). However, if sport-plus wants to realize a sustainable change, it will be interesting to study the potential for social transformation, and to look at what sport-plus can do for the community. Another clear knowledge gap in sport-plus is the measurement of impact. Since sport-plus is a complex intervention, and social exclusion a complex problem, it is quite a challenge to measure the impact of sport-plus, and to assign effects on social exclusion to sport-plus related mechanisms and processes. In this respect, there are interesting perspectives for a long-term research design (e.g. a cohort study) to measure structural changes in social inclusion (for which precise indicators need to be identified first), to explain them within their context and to allocate them to specific sport-plus mechanisms, or others. It might also be interesting to apply the transferable mechanisms of sport-plus to another domain than sport-plus (e.g. art) and to study within that context whether and under what circumstances the desired effects are still triggered. In this way, the arsenal of effective instruments for health promotion can possibly be expanded, in order to also reach the part of the target group that cannot be reached through sport-plus.

Samenvatting

Een groeiende groep mensen in onze samenleving is geconfronteerd met sociale uitsluiting in meerdere levensdomeinen, zoals onderwijs, tewerkstelling, gezondheid en vrijetijdsbesteding. Bovendien worden interventies die sociale inclusie beogen geconfronteerd met meerdere uitdagingen zoals korte termijn projectfinanciering, gebrekkige mogelijkheden om de effectiviteit te monitoren, te evalueren en te bewijzen, moeilijkheden om de meest kwetsbare groepen te bereiken, en een beperkt begrip van de doelgroep. Sport wordt gezien als een potentieel rijke context om moeilijk te bereiken jongeren met risico op sociale uitsluiting, toch te kunnen bereiken. De afgelopen decennia is uit een toenemend aantal studies gebleken dat naast de bekende individuele voordelen van sportdeelname (bijv. verbeterde conditie, minder angst, betere zelfcontrole, meer gevoel van eigenwaarde en zelfredzaamheid, sociale vaardigheden en verbondenheid, vooral bij sociaal kwetsbare groepen), er ook positieve effecten van sport op het niveau van de samenleving kunnen zijn (bijv. meer sociale cohesie, minder criminaliteit). Intussen is ook het potentieel van sport om de veerkracht van de deelnemers positief te beïnvloeden uitgebreid gedocumenteerd: via tussenresultaten van sport kan men werken aan meer inclusie en mensen in staat stellen om zelf meer 'gezondheid' na te streven, waarbij de term wordt gedefinieerd volgens eigen waarden en normen. Deze voordelen zijn echter niet inherent aan alle sportactiviteiten, en ze komen ook niet vanzelf. De voordelen moeten als objectieven in het programma zijn ingepland en de activiteiten dusdanig georganiseerd dat ze naar deze voordelen toewerken. Het gaat dus niet meer om ‘sport voor de sport’, maar wel om ‘sport als middel’. Wanneer sporten geen doel op zich is, maar eerder een middel om andere doelstellingen te verwezenlijken, dan spreken we over Sport-for-Development (SfD) of sport-plus. Reguliere sport en ‘Sport-plus’ hebben een verschillende logica en onderliggende ‘theory-of-change’.

Dit proefschrift is gericht op het identificeren van de onderliggende mechanismen van sport-plus die de gezondheid van sociaal kwetsbare bevolkingsgroepen kunnen bevorderen, en van de noodzakelijke contextfactoren voor het ontstaan van deze mechanismen. Het maakt deel uit van een vierjarig (2016-2019) Strategisch Basisonderzoek, CATCH genaamd. CATCH (acroniem voor ***C****ommunity sports for* ***AT****-risk youth: innovating strategies for promoting personal development, health and social* ***CoH****esion*) werd ontwikkeld door drie universitaire

departementen in Vlaanderen, België, en gefinancierd door Agentschap Innoveren en Ondernemen (VLAIO). Zowel in het ontwerp als in de uitvoering van de interventies is CATCH een transdisciplinair project, dat wil zeggen dat het niet alleen onderzoekers uit verschillende domeinen maar ook beleidsmakers en praktijkmensen samenbrengt. Het CATCH onderzoeksproject had tot doel cruciale nieuwe inzichten te verschaffen die programma's en beleid gericht op sociale inclusie zouden kunnen verbeteren. In een eerste fase werd kennis verworven over hoe, waarom en in welke omstandigheden sport-plus de sociale inclusie van kwetsbare groepen kan beïnvloeden. In een tweede fase werd deze kennis vertaald naar de praktijk door middel van een interventie opgezet in een Vlaamse sport-plus praktijken die een concrete vraag had met betrekking tot het optimaliseren van de praktijk.

Binnen het kader van dit proefschrift werden vier studies opgezet. **Studie 1** is de weerslag van de eerste fase (2016-2017) van het CATCH project. Het beschrijft de ontwikkeling en inhoud van een theorie over hoe, waarom en in welke omstandigheden sport-plus als een gezondheidsbevorderende hefboom kan functioneren. De theorie werd opgebouwd aan de hand van een rijke kwalitatieve dataset verzameld in verschillende SfD-programma's in drie Vlaamse steden, elk in een andere provincie. **Studie 2** bestaat uit twee sub-studies en beschrijft de ontwikkeling, en nadien de implementatie en evaluatie, van een pilootinterventie in sport-plus die tot doel heeft de realisatie van de doelstellingen van sport-plus te optimaliseren. In de desbetreffende interventie worden SfD coaches in opleiding betrokken in een participatief trainingstraject, met als doel de coaches te stimuleren tot zelfreflectie, en hen aan te zetten tot het herkennen, en het gebruik maken, van functionele mechanismen in sport-plus. Theoretische veronderstellingen (inzichten uit de eerste fase) werden doorheen dit trainingstraject gewoven, waardoor de uitvoering en vooral de evaluatie van deze interventie nieuwe inzichten opleverden ter verfijning en aanpassing van de eerste theorie. Tegelijk werd de theorie uit studie 1 ook getest in een niet-interventionele setting: in **studie 3** diende één specifieke sport-plus organisatie als vergelijkende case. Interessant in deze case studie was dat de desbetreffende organisatie de inzetbaarheid van sport-plus deelnemers op de arbeidsmarkt als einddoel had, en het verbeteren van het welzijn en de gezondheid een neveneffect bleek te zijn van het project. De mechanismen die maakten dat de organisatie de gestelde doelen kon realiseren, waren dezelfde als de mechanismen geïdentificeerd in de theorie uit studie 1. Tot slot biedt **Studie 4** een algemene reflectie op de SfD coaches die, als realisatoren van SfD programma's van cruciaal belang zijn voor de levensvatbaarheid en de realisatie van de SfD-doelen. In deze laatste studie zijn alle data eerder in het project verzameld, opnieuw

geanalyseerd met het oog op het benoemen van noodzakelijke persoonskenmerken, vaardigheden en kennis van de ideale SfD coach, en het identificeren van bepalende contextelementen die er toe bijdragen dat SfD coaches succesvol zijn in realiseren van de doelstellingen van hun programma.

De studies in dit proefschrift maken gebruik van een realistisch onderzoeksperspectief, dat tracht de onzichtbare causale krachten ('mechanismen') achter empirisch waarneembare patronen of veranderingen in die patronen bloot te leggen. Dit gebeurt door middel van 'retroductie', een term die verwijst naar de achterwaartse beweging vertrekkende van geobserveerde patronen en terugkijkende naar wat deze patronen zou kunnen hebben voortgebracht. Realistische onderzoeksmethoden tonen aan dat de context waarin een interventie is ingebed van vitaal belang is om de onderliggende mechanismen van het sociale probleem en het potentieel van het geformuleerde antwoord daarop te begrijpen. Daarom is het grondig bestuderen van deze context in al zijn facetten de sleutel tot het succes van een complexe interventie. Volgens het realistische perspectief vloeien de functionele mechanismen van een interventie, die resultaten veroorzaken, niet voort uit de input van bepaalde middelen en activiteiten, maar wel uit de reacties (redeneringen, handelingen) van de belanghebbenden op deze input. Dit verklaart waarom de uitkomst van complexe interventies altijd verschillend is, en waarom succesvolle interventies niet noodzakelijkerwijs succesvol zijn wanneer ze in een andere context/setting met andere middelen en andere actoren worden ontwikkeld. De context, en de interactie tussen context en mechanisme, is essentieel; het triggert de actie en de verandering in sociale praktijken. De relevantie van een realistisch onderzoeksperspectief ligt in het feit dat het programma- en beleidsmakers informatie verschaft over de contextfactoren die gewenste sociale mechanismen triggeren, of net afremmen, waardoor programma's en beleid dienovereenkomstig kan ontwerpen en/of aanpast worden. Voor een strategisch basisonderzoek, dat concrete aanbevelingen ter verbetering van de praktijk beoogt, is dit onderzoeksperspectief dus een logische keuze.

De inzichten die dit proefschrift opleverde kunnen samengevat worden in drie punten.

1. Van sport-plus naar duurzame gedragsverandering vraagt tijd en de juiste omstandigheden

Sport-plus activiteiten kunnen bijdragen aan een gevoel van samenhorigheid, een positief zelfbeeld en gepercipieerde zelfredzaamheid in sociaal kwetsbare individuen, doch hiervoor is een context nodig die voldoet aan enkele noodzakelijke voorwaarden. SfD deelnemers dienen eerst de mogelijkheid te hebben om emotioneel te binden met medespelers en met coaches, en dit kan slechts wanneer ze een gevoel van psychologische veiligheid ervaren. Dit laatste ontstaat wanneer de omgeving als betrouwbaar en voorspelbaar wordt gezien (mensen weten wat ze kunnen verwachten van de activiteit en van de betrokkenen) en wanneer deelnemers hun vaak zwaar geladen persoonlijke rugzak kunnen afzetten en mentale ruimte ervaren om vooruit te kijken, hun leven in handen te nemen en doelen te stellen om hun welzijn te verbeteren. In een psychologisch veilige context wordt door SfD coaches gebruik gemaakt van motiverende coaching technieken en een constructieve groepsdynamiek (inclusief rolmodellen) om deelnemers te betrekken bij fysieke activiteit, bij groepsdynamiek en - op termijn - bij het bredere maatschappelijke gebeuren (veelal lokaal verankerd in een specifieke wijk of gemeenschap). Het sport-plus gebeuren wordt op die manier een experentiële leerschool waar deelnemers in de mogelijkheid gesteld worden om initiatief te nemen en, met vallen en opstaan, succeservaringen op te bouwen. Naarmate hun zelfredzaamheid en zelfvertrouwen groeit, worden deelnemers stapsgewijs begeleid in het opstellen en nastreven van persoonlijke gezondheidsdoelen. Een omgeving waarin zij die sociaal kwetsbaar zijn langzaam kunnen groeien is een noodzakelijke voorwaarde om de doelstellingen van SfD te bereiken, vandaar de cruciale rol van tijd, en van SfD coaches die de mechanismen van SfD kennen en de context dusdanig vorm kunnen geven dat de noodzakelijke voorwaarden voor het realiseren van SfD doelstellingen vervuld zijn. Onze studies versterkten de hypothese dat niet de sport als zodanig, maar de context die door sport-plus wordt gecreëerd, een positieve invloed heeft op het welzijn van de deelnemers. Sport-plus draagt een aantal veranderingsmechanismen in zich die onder de juiste omstandigheden worden ingeschakeld, zoals het licht van een dimschakelaar, waarbij de intensiteit varieert in overeenstemming met de context waarin het programma wordt aangeboden. De ideale context is een context die mogelijkheden biedt voor socialisatiebeleving, niet een context waarin vaste socialisatie-uitkomsten worden nagestreefd. Voorbeelden van 'juiste omstandigheden' zijn de beschikbaarheid van positieve rolmodellen (microniveau), een gemeenschappelijk projectkader gedragen door meerdere partners (mesoniveau) of het structureel gebruik maken

van sport als leerschool voor sociale vaardigheden, zowel in de onderwijssector als in de tewerkstellingssector (macroniveau). Om sport-plus initiatieven te doen slagen, is het belangrijk dat er geïnvesteerd wordt in de context van sport-plus en dat deze investeringen gespreid worden in de tijd opdat sport-plus projecten de randvoorwaarden voor het verwezenlijken van hun doelstellingen kunnen vervullen. Het creëren van een veilige en constructieve leeromgeving is een proces dat tijd vraagt en de mogelijkheid om dezelfde mensen (coaches, coördinatoren) en eenzelfde programma te kunnen aanhouden op middellange tot lange termijn.

2. De SfD coach is een zeer bepalende contextfactor, en zelf onderhevig aan context

Vrij vroeg in dit onderzoek werd duidelijk dat de coach een cruciale succesfactor is bij het gebruik van sport als middel voor persoonlijke en sociale groei. De coach stuurt het schip, houdt het overzicht over wat er nodig is en geeft vorm aan een faciliterende omgeving. Enerzijds is de coach een persoon gevormd door de eigen unieke mix van interacties en ervaringen, anderzijds is de coach een beslissende actor die een substantieel deel van de context kan bepalen waarin andere actoren (waaronder de sport-plus deelnemers) ageren. Zo wordt de SfD coach een sterk bepalende factor voor de resultaten van SfD programma's. Wanneer SfD coaches ook handelen buiten de beperkingen die sociale structuren opleggen, kunnen zij die sociale structuren veranderen. Sport-plus kan beschouwd worden als een interface tussen actoren en verschillende sociale structuren, waarin de dynamiek van verandering wordt gecreëerd. De SfD-coach is, meer nog dan een actor, een verpersoonlijking van dat raakvlak.

Gebaseerd op bovenstaande inzichten werd, in nauwe samenwerking met SfD coaches, een vormingstraject uitgewerkt om coaches in staat te stellen SfD projecten succesvol vorm te geven. De vorming diende voor deze pilootfase uiterst laagdrempelig te zijn, gezien de doelgroep van dit pilootproject bestond uit coaches in opleiding die zelf een achtergrond hadden van sociale kwetsbaarheid en waren tewerkgesteld in een sociaal integratiecontract dat opleiding en tewerkstelling combineert. Dit trainingsopzet stond toe de theorie ontwikkeld in de eerste fase te testen in de praktijk. De coaches in opleiding werden immers meegenomen op een pad waarop zij nadien zelf de deelnemers aan SfD zouden meenemen. In het vormingstraject werd zo, onder andere, ook ruimte en tijd gemaakt voor het creëren van een veilige en betrouwbare omgeving alvorens te werken aan zelfreflectie, en moeilijke of

gevoelige onderwerpen aan te kaarten. Een realistische procesevaluatie van deze interventie bevestigde dat een veilig leermilieu bijdraagt aan een 'juiste mindset' om het leerproces te vergemakkelijken. De coaches-in-opleiding rapporteerden ook een verhoogd bewustzijn rond gezondheid en welzijn en een groter verantwoordelijkheidsgevoel om als rolmodel te fungeren voor risicojongeren behoorde, als resultaten van het vormingstraject. De procesevaluatie van deze interventie toonde aan dat verschillende variabelen (bijvoorbeeld precaire levensomstandigheden of een verminderd mentaal welzijn) de processen en uitkomsten van het vormingstraject kunnen belemmeren, net zoals dat ook het geval is voor deelnemers aan sport-plus activiteiten.

3. Gezondheidspromotie anders aangepakt: transdisciplinair, op maat gemaakt en context-gebonden

Het gehanteerde realistisch onderzoeksperspectief doet inzien dat sociale problemen als sociale uitsluiting en gezondheidsongelijkheid gevormd worden in een specifieke context, en de oplossingen moeten binnen die context worden gezocht. SfD kan bijdragen tot een beter welzijn van sociaal kwetsbare individuen als de juiste omstandigheden worden gecreëerd. Dit vraagt om een weldoordachte projectcyclus. Transdisciplinaire projecten, waarin praktijkmensen en onderzoekers van verschillende disciplines samenwerken om een concrete en gewenste verandering in de sociale praktijk te realiseren, hebben aangetoond een efficiënte weg voorwaarts te zijn. Onderzoekers hebben toegang tot accurate informatie die belangrijk is om het sociale probleem correct te definiëren, en kunnen daardoor praktijkmensen helpen bij het theoretiseren van hun doelen en het identificeren van efficiënte instrumenten, methoden en processen om deze doelen te realiseren. Bovendien blijkt uit de samenwerking tussen maatschappelijk werkers, arbeidsbemiddelaars, jongerenwerkers en gezondheidswerkers, zoals die in verschillende sport-plus-praktijken plaats heeft, dat er veel gemeenschappelijke doelstellingen zijn. Om de succesvolle realisatie van deze doelstellingen te vergroten en te ondersteunen, is het noodzakelijk om deze intersectorale samenwerking te formaliseren door middel van samenwerkingsverbanden en gedeelde projectfondsen. SfD kan als intersectorale actie op effectievere, efficiëntere of duurzamere wijze (tussentijdse) gezondheidsresultaten bereiken dan wat door actie in uitsluitend de gezondheidssector zou kunnen worden bereikt.

Alle betrokkenen in sport-plus praktijken dienen zich bewust te zijn van wat sport-plus inhoudt en hoe het kan leiden tot de gemeenschappelijke doelstellingen van elke partner. Een trainingstraject kan gunstig zijn voor het harmoniseren van kennis, competenties en attitudes

van sport-plus coaches met betrekking tot deze zaken, en voor het openen van een dialoog tussen coaches met zeer verschillende achtergronden, zoals de klassieke sportcoach die streeft naar betere fysieke prestaties, en de maatschappelijk werker die sport gebruikt als een instrument om moeilijk te bereiken individuen toch te kunnen bereiken. In de bestaande opleidingen van de betrokken professionals (master in sport en bewegingswetenschappen, sportleerkracht, bachelor sociaal werk…) en in het curriculum van de Vlaamse Trainerschool zou ook een module sport-for-development kunnen worden geïntegreerd.

Uitdagingen en opportuniteiten voor verder onderzoek

De gecontextualiseerde en getailleerde aanpak van sport-plus praktijken heeft de aandacht geconcentreerd op de lagere contextniveaus (micro- en meso-niveau). Echter, wil sport-plus een duurzame verandering realiseren, dan zal het interessant zijn om het potentieel voor sociale transformatie te bestuderen, en te kijken naar wat sport-plus voor de gemeenschap kan doen. Een andere duidelijke kenniskloof met betrekking to sport-plus is het meten van impact. Gezien sport-plus een complexe interventie is, en sociale uitsluiting een complex probleem, is het een hele uitdaging om de impact van sport-plus te meten, en om effecten op sociale uitsluiting toe te wijzen aan sport-plus gerelateerde mechanismen en processen. In dat opzicht zijn er interessante toekomstperspectieven voor een langdurig onderzoeksopzet (bijvoorbeeld een cohortstudie) om structurele wijzigingen in sociale inclusie te meten (waarvoor eerst precieze indicatoren dienen te worden geïdentificeerd), te verklaren binnen hun context en toe te wijzen aan specifieke mechanismen van sport-plus, of andere. Ook zou het interessant kunnen zijn om de transfereerbare mechanismen van sport-plus toe te passen op een ander domein dan sport-plus (bijvoorbeeld kunst) en binnen die context te bestuderen of en in welke omstandigheden de gewenste effecten nog steeds worden getriggerd. Zo kan het arsenaal aan effectieve instrumenten ter bevordering van gezondheidspromotie mogelijk worden uitgebreid, teneinde ook het deel van de doelgroep te kunnen bereiken dat niet via sport-plus kan worden bereikt.

Epilogue

There is a crack, a crack in everything

That's how the light gets in

— Leonard Cohen, *Anthem* (1992)

Erratum

During the peer review of this dissertation, two errors came to light with regards to the references of already published articles. We have contacted the journals in which the studies were published in order to correct this in the publication. It concerns the following references:

In Study 2b: Evaluation of a program targeting sports coaches as deliverers of health-promoting messages to at-risk youth: Assessing feasibility using a realist-informed approach.

p. 102 of this dissertation, reference 32 of the concerned article:

Van Poppel M. Benmark Buurtsport. Buurtsport in Vlaanderen anno 2014 [Benchmark community sport. Community sport in Flanders in the year 2014]. Belgium: Flemish Institute of Sport Management and Recreation Policy; 2015.

This should be: Van Poppel M. Benchmark Buurtsport. Buurtsport in Vlaanderen anno 2014 [Benchmark community sport. Community sport in Flanders in the year 2014]. Belgium: Flemish Institute of Sport Management and Recreation Policy; 2015.

p. 102 of this dissertation, reference 33 of the concerned article:

Haudenhuyse R, Theeboom M. Buurtsport en sociale innovatie: een tweede start voor buurtsport in Vlaanderen? In: Theeboom M, Haudenhuyse R, Vertonghen J, editors. Buurtsport en sociale innovatie: een tweede start voor buurtsport in Vlaanderen? Brussels: Sport en Sociale Innovatie, VUBPRESS; 2015. pp. 191–208.

This should be: Haudenhuyse, R. & Theeboom, M. (2015). Buurtsport en sociale innovatie: een tweede start voor buurtsport in Vlaanderen? (Community sport and social innovation: a second start for community sport in Flanders?). In Theeboom, M., Haudenhuyse, R. & Vertonghen, J. (Eds.). Sport en sociale innovatie: Inspirerende praktijken en inzichten (pp. 191-207). Brussel: Academic Scientific Publishers.

The second error (Haudenhuyse et al. 2015) has been reproduced in Study 3 (p. 119 of this dissertation, reference 21 of the concerned article).

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Reality, not formality, forces me to rely on a towering cliché: this work would not have been possible without the help of my promotor and co-promotor, respectively Prof. Sara Willems and Prof. Emelien Lauwerier. They have done more than I could have expected. I have tremendous admiration for both of them. Sara, the way you combine your tasks as department manager and research coordinator, a teaching mandate and a family life with a good mood and with taking time for everyone, is at the very least impressive. Emelien, you are dazzling efficient, very supportive and have done much more than guiding me through this process: you have created, designed, written, revised, rewritten. Most helpful was the cordiality of the collaboration with these two strong ladies; they've got a good sense of humor and empathy. The latter brings me seamlessly to a whole bunch of other colleagues that I wish to thank for exchanging views, for making me laugh, for providing the energy needed to sit too long behind a computer, for listening and for asking. I surely had some prejudgments about research and researchers. I can't deny that some of those I had concerning research have been confirmed at certain occasions, yet those I had on the average researcher have gone through a

reset – it's easy to blame some of the colleagues at the department of public health and primary care for it. I won't list all the concerned here but will surely find a more personal way to express my appreciation and gratitude for their presence and being.

To some of you I owe special thanks though, for aside the shared pleasure you have considerably improved my work through revisions, comments, discussions, meetings… Veerle (Vyncke), your insights show a tremendous capacity to see the bigger picture. Thank you for your fresh views, and your natural understanding of the rugged roads my mind tends to take. Kaat (Van Roy), you're a first-class all-rounder. All you do is done with precision, with a constructive-critical attitude and with the intention to provide quality. Thank you for having been my (and many others') sounding board. Esther, you came at a moment that I was extremely tired. I'm very grateful of your help in the preparation of the community sport coach training. Your input was creative, keen and timely; something we could count upon. No doubt these qualities will be of good use in your PhD trajectory. Many thanks to Fien (Mertens) and Peter (Decat) for reflecting with me on realist research; your insights, your experience, your revisions and comments have been very useful. Your pedagogical skills are precious, Fien; you have the gift to communicate your feedback in a clear yet very constructive manner. Those do not always go together. To Peter, I'm specifically grateful for sending me the notification of the PhD-scholarship – without that email, I would not be writing my words of gratitude now. I truly appreciate how your professional experience as a primary care specialist, your great sense of humanity and social engagement go beautifully hand in hand. This counts, by the way, for several colleagues in the department, which is populated by beautiful human beings and teachers, who do not – or not only – preach about equity in health but live accordingly.

Many thanks to the members of my PhD guidance committee for their tips and tricks: Dr. Sara Van Belle (Institute of Tropical Medicine), Dr. Veerle Vyncke (colleague at the department) and Dr. Kevin Harris (Southampton University). Thank you, Sara, for sharing with me your expertise in realist evaluation, your insights and the juicy details of the realist beau monde (cf. 'realist RCT' and the 'uncritical realism of realist evaluation' Porter-Pawson debate). Kevin, you are a very gifted teacher – it was an absolute pleasure to learn from you. You combine fresh and innovative views to the critical sense of someone who knows very well what he is talking about. The way you make realist philosophy sound so comprehensible and the way you can make it concrete, is magic.

I also wish to express my sincere gratitude to the international expert panel of the CATCH research project for sharing their insights with us, for providing references, for proposing their help. Prof. Em. Fred Coalter (Vrije Universiteit Brussel & Leeds Beckett University), Prof. Ramón Spaaij (Victoria University & University of Amsterdam), Prof. Christian Kjeldsen (Aarhus University) and Prof. Em. Guy Kegels (Institute of Tropical Medicine, ITM). I owe special thanks to Prof. Kegels, a realist pioneer, for helping me to put things in (realist) perspective. When working at the ITM, I was always quite impressed by the image of Prof. Kegels reading a manuscript or a book in the garden – his silent presence sparkled Socratic wisdom ("I do not think that I know what I do not know") and great authority. I regret that during my PhD trajectory, time constraints did not allow more opportunities to exit the fast lane, and to sit down, discuss with, and learn from him – and from the other expert members.

To the colleagues of the (early and late) CATCH team – Prof. Marc Theeboom, Dr. Hebe Schaillée, Dr. Dorien Brosens and Pieter Debognies (VUB, Department Sport and Society); Prof. Rudi Roose, Prof. Lieve Bradt & Dr. Shana Sabbe (Ghent University, Department of Social Work and Social Agogics): thank you for a constructive collaboration, for your efforts and encouragements. Special thanks to Dr. Rein Haudenhuyse en Dr. Zeno Nols, for sharing their passion and insights in the research subject, for being very supportive to the junior researchers in this field, and for the additional literature that was helpful in preparation of the internal defense. Very grateful as well to Prof. Pascal Delheye, chairholder of UGent Chair Frans Verheeke - The Future of Sport (at the faculty of Political and Social sciences, which was my first university habitat), for his critical appraisal of sport as a tool for development, for his tireless enthusiasm and for his motivational support and constructive-critical attitude towards junior researchers like myself.

I'd like to thank two more persons, not part of the CATCH team, the PhD committee or the UGent Public Health and Primary Care department, for generating the necessary conditions 'to fire' (the mechanisms of) this PhD. In 2012, I contacted Prof. Em. Vincent De Brouwere, former head of the research unit Maternal and reproductive Health at the Public Health department of the ITM, to ask whether he had a place for me in his team. After intensive years in various public health projects overseas, I wanted to deepen my knowledge on health systems and pass on some field experience to students in the postgraduate course in tropical medicine. While Prof. De Brouwere provided me the opportunity to enroll in the academic world, I did not succeed in embracing that world; I kept stumbling about whether I could ever

be (and whether I would want to be) a 'researcher'. Although I felt I was much more a hands-on field worker than a researcher, he taught me that I could be both in the same time. I am equally grateful to, and appreciative of, Prof. Bruno Marchal, currently heading the Health Systems unit at the ITM. He blows a fresh wind through the academic world, being a frontrunner in human management and pleading for a context in which researchers can have a better work-life balance. When I kept tripping over the question to be or not to be a researcher, people like Bruno contributed to 'sticking with it' – especially when he came with a little figure, or scheme, to make his point. It reminded me of the fact that I really enjoy reflecting about how things are linked.

I hope to not have forgotten anyone. If not on these pages, I'm sure you will strike me at an unguarded moment; something you've said, a small gesture perhaps. After all, nothing exists that does not touch anything else.

Aan Billie, m'n bollie: ik ben ontzettend trots op je. De voorbije jaren hebben wij samen zoveel geleerd: over jou, over mij, over ons, over die moeilijk te doorgronden wereld rondom. Ik tracht vaker door jouw ogen te kijken. Blijf jij me zeggen wat je ziet? Suzanne, de deugnieterij spat van je snoet af, en je lach is, op z'n minst, ontwapenend. Zo blij met je komst. Jojo, merci. Jusqu'ici, nous avons traversé plus de mers sauvages que des eaux calmes dans notre canoë gonflable… Par moment, tu as été rive gauche et rive droite, la terre sous mes pieds. Certes nous sommes mieux préparés maintenant pour faire face aux tempêtes à venir, et au réchauffement climatique… De toute façon, la Petite Mer de Gâvres est belle dans tous ses états!

Zeer dierbare vrienden, jullie zijn de context: dat wat telt, dat wat het verschil maakt. Dank om er te zijn.

Karen, Riantec, december 2020

Je moet niet alleen, om de plek te bereiken,

thuis opstappen, maar ook uit manieren van kijken.

Er is niets te zien, en dat moet je zien

om alles bij het zeer oude te laten.

Er is hier. Er is tijd

om overmorgen iets te hebben achtergelaten.

Daar moet je vandaag voor zorgen.

Voor sterfelijkheid.

Uit 'Schoolslag', H. de Coninck, 1994

About the author

Curriculum vitae

Professional experiences

- Action-research concerning the inclusion of socially vulnerable populations through Sport-for-Development: University of Ghent, Belgium, Nov. 2017 - Feb. 2020
- Research & education associate / SRHR network coordinator : Institute of Tropical Medicine, Department of Public Health, Belgium, July 2015 - Dec. 2016
- Head of mission: Doctors of the World Belgium, Mali, June 2014 - August 2014
- Research & education associate: Institute of Tropical Medicine, Department of Public Health, Belgium, May 2013 - June 2014
- Public health expert: Doctors of the World Belgium, temporary technical support, Oct. 2012 - May 2013
- Teacher Midwifery and Nursing College: Arteveldehogeschool, Belgium, replacement, Sept. - Dec. 2012
- Head of Mission, Reproductive Health and Microfinance project: Médecins du Monde, Nepal, Sep. 2011 – Sep. 2012
- Health project coordinator: Médecins du Monde, DRC, Zimbabwe, Palestine, Haiti, Darfur, Kyrgyzstan, Ethiopia, Pakistan, Oct. 2008 - Aug. 2011
- Reproductive health referent: ad hoc mandate for grant writing, Médecins du Monde, Paris, Sep. - Dec. 2008
- Midwife / nurse: Médecins du Monde, Darfur, South Sudan, Ethiopia, Pakistan, Sept 2006 - Oct 2008
- Midwife (hospital, health center, freelance) and nurse (hospital, EHPAD, home care): replacements (Belgium, Guatemala), July 2004 - Feb. 2007
- Social Science teacher: replacements in secondary education (various schools and a closed community center); Belgium, Nov. 2000 - Feb. 2006
- Site coordinator: Provinciaal Integratiecentrum Oost-Vlaanderen, Belgium, March - Oct. 2001

Qualifications

- Master in Management & Policy of Health Care: Ghent University, 2017
- Postgraduate Tropical Medicine for Nurses & Midwives: Institute of Tropical Medicine, Antwerp, 2006
- Bachelor in midwifery: Arteveldehogeschool, 2005
- Aggregation (university teaching degree): Ghent University, 2001
- Master in Political and Social Sciences (International Relations): Ghent University, 2000

PHD portfolio

Active participation in conferences and seminars

- Van der Veken, P., **Van der Veken, K**., Beelaert, W., Willems, S., & Lauwerier, E. (2020). *Voetbal en sociale inclusie. De essentials van het coachen van kwetsbare mensen bij de KAA Gent Foundation.* Dag van de trainer. Online, 05.12.2020
- Van der Veken, P., **Van der Veken, K.,** Beelaert, W., Willems, S., & Lauwerier, E. (2020). *Soccer: A route out of poverty? The essentials of coaching vulnerable people at the KAA Gent Foundation.* 16th Conference of the European Network for Young Specialists in Sport Psychology (ENYSSP). 16.04.2020-18.04.2020, Ghent, Belgium. Abstract accepted but conference cancelled due to COVID-19 measures.
- Debognies, P., Sabbe, S., **Van der Veken, K**. & Theeboom, M. (2020). *Scientific insights for practitioners: Let's Talk Reality.* Final Symposium CATCH-project – Social inclusion through community sport: Myth or reality. Tour & Taxis, Brussels. 21.03.2020
- **Van der Veken, K. (2020).** Presentation to MAïSI students (Master in Sport ethics and Integrity): Community sports as lever for improved health and wellbeing for socially vulnerable populations. Online, 26.02.2020
- Mertens, F., & **Van der Veken, K.** (2019). *Introduction to realist methods*. Seminar at the Department of Public Health and Primary Care. Ghent University, 24.09.2019.
- **Van der Veken, K.**, & Willems, S. (2018). Presentation to MAïSI students (Master in Sport ethics and Integrity): The CATCH research project – inclusion of socially vulnerable adolescents through sport. KAA Gent, Ghent, 09.05.2018.
- **Van der Veken, K.**, Lauwerier, E., & Willems, S. (2018). *'CATCHing' up with health through community sports.* In session: 'Are the Kids All Right? Seeking, Finding, and Understanding Resilient Youth'. EARA conference, Ghent, 14.09.2018.
- **Van der Veken, K.**, Lauwerier, E., Van der Sypt, P., Goethals, L. & Willems, S. (2018). *Gezondheid en bewegen in ieders nabijheid.* ISB conference, Ghent, 21.03.2018.

Workshops & Seminars

- Narrative analysis. 18-19 April 2018. VUB, Brussels
- NVivo. 21-22 June 2018. University of Antwerp / Ghent University, Ghent
- Realist methods. 11-15 February 2019: CARES, London
- Experts-by-Experience. 27 March 2019. Ghent University, Ghent
- How to Get your Message Across Effectively: the Science of Storytelling. 9 March 2018. Ghent University, Ghent
- 'Verdiepingsmoment Buurtsport - Monitoring en evaluatie'. 27-28 November 2018. ISB, Brussels
- Action Research. 16 January 2018. Ghent University, Ghent

- "Nooit meer buitenspel'. Enhancing through sports the health and wellbeing for people with a mental vulnerability. 22 March 2018. Parantee-Psylos, Antwerp

List of publications

International peer-reviewed articles

- **Van der Veken, K.**, Harris, K., Delheye, P., Lauwerier, E., Willems, S. (2020). Coaching in the 'third space': An exploratory study of critical experiences of coaches in sport-for-development programs. Submitted on November 12, 2020. *Sport, Education & Society.*
- Lauwerier, E., Van Poel, E., **Van der Veken, K.**, Van Roy, K., Willems, S. (2020) Evaluation of a program targeting sports coaches as deliverers of health-promoting messages to at-risk youth: Assessing feasibility using a realist-informed approach. *PLoS ONE 15*(9): e0236812. https://doi.org/10.1371/journal.pone.0236812
- **Van der Veken, K.,** Lauwerier, E. & Willems, S. (2020). How community sport programs may improve the health of vulnerable population groups: a program theory. *Int J Equity Health, 19*, (74). https://doi:10.1186/s12939-020-01177-5.
- **Van der Veken, K.**, Lauwerier, E. & Willems, S. (2020). "To mean something to someone": sport-for-development as a lever for social inclusion. *Int J Equity Health, 19*(11). https://doi:10.1186/s12939-019-1119-7
- **Van der Veken, K.**, Willems, S., & Lauwerier, E. (2019). Health promotion in socially vulnerable youth: sports as a powerful vehicle? *Health Promotion Practice.* Published online: 4 October 2019. https://doi.org/10.1177/1524839919874751.
- **Van der Veken, K.**, Dkhimi, F., Marchal, B., & Decat, P. (2018). "They are after quantity, not quality": Health providers' perceptions of fee exemption policies in Morocco. *International Journal of Health Policy and Management, 7*(12). http://www.ijhpm.com/article_3534.html
- **Van der Veken, K.**, Belaid, L., Delvaux, T., & De Brouwere, V. (2017). Research capacity building through North–South–South networking: towards true partnership? An exploratory study of a network for scientific support in the field of sexual and reproductive health. *Health Research Policy and Systems, 15*(39). https://doi.org/10.1186/s12961-017-0202-z
- Delamou, A., Sidibé, S., El-Ayadi, A.M., Camara, B.S., Delvaux, T., Utz, B., Toure, A., Sandouno, S.D., Camara, A. Beavogui, A.H., Shahabuddin, A., **Van der Veken, K.**, Assarag, B., Okumura, J., & De Brouwere, V. (2017). Maternal and child health services in the context of the Ebola virus disease: health care workers' knowledge, attitudes and practices in rural Guinea. *African Journal of Reproductive Health, 21*(211).
- Dossou, JP, Assarag, B., Delamou, A., **Van der Veken, K.**, Belaid, L., Ouedraogo, M., Khalfallah, S., Aouras, H., Diadhiou, M., Fassassi, R., & Delvaux, T. (2016). Switching the poles in Sexual and Reproductive Health Research: Implementing a research capacity-strengthening network in West and North Africa. *Reproductive Health, 13*(91).

Book chapters

- Lauwerier, E., **Van der Veken, K.**, Van Roy, K., & Willems, S. (forthcoming, 2021). Health promotion in the context of sport-for-development: illustration of a theory-informed approach to program development and evaluation. In Theeboom, M., Schaillée, H. Roose, R., Willems, S., Bradt, L., & Lauwerier E. *Community Sport and Social Inclusion: Enhancing strategies for promoting personal development, health and social cohesion.* Oxford, UK: Routledge.
- Schaillée, H., Theeboom, M., Sabbe, S., **Van der Veken, K.**, Debognies, P. & Brosens D. (forthcoming, 2021). Community sport and social inclusion: methods and overarching mechanisms. In Theeboom, M., Schaillée, H. Roose, R., Willems, S., Bradt, L., & Lauwerier E. *Community Sport and Social Inclusion: Enhancing strategies for promoting personal development, health and social cohesion.* Oxford, UK: Routledge.
- Lauwerier, E., **Van der Veken, K.**, & Willems, S. (forthcoming, 2021). A case against "black box evaluation": using process evaluation to explore the theory-of-change underlying a sport-for-development intervention to promote health in socially vulnerable populations. In Harris, K., & Adams, A. *Evaluation in Sport, Leisure and Well Being.* Oxford, UK: Routledge.

Other publications

- Goethals, L., **Van der Veken, K**., & Van der Sypt, P. (2018). Hoe Buurtsport gezondheid kan verbeteren. *Vlaams Tijdschrift voor Sportbeheer.*

Technical reports

- **Van der Veken, K.**, Richard, F., Marchal, B., Witter, S., Dossou, JP., Essolbi, A., Yaogo, M., Dubourg, D. & De Brouwere, V. (2014) POEM – Policy Effect Mapping. A framework to assess the effects of a targeted policy on the local health system. Antwerp: ITM.
- Marchal, B., **Van der Veken, K.**, Essolbi, A., Dossou, J.P., Richard, F. & Van Belle, S. (2014) Methodological reflections on using realist evaluation in a study of fee exemption policies in West Africa and Morocco. Antwerp: ITM.
- Essolbi, A., Ababou, M., Hachri, H., **Van der Veken, K.**, Richard, F., Marchal, B. & De Brouwere, V. (2014) Evaluation du degré de mise en oeuvre de la politique de gratuité de l'accouchement et de la césarienne au Maroc. Rabat: ENSP.
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- Essolbi, A., Ababou, M., Hachri, H., **Van der Veken, K.**, Marchal, B., & De Brouwere, V. (2013) Evaluation Réaliste de la politique de gratuité de l'accouchement et de la césarienne : Etudes de cas au Maroc. Rabat: ENSP