

Peer mentors' role in school-based health promotion: qualitative findings from the Young & Active study

Stine Kjær Wehner  *, Tine Tjørnhøj-Thomsen, Camilla Thørring Bonnesen, Katrine Rich Madsen, Marie Pil Jensen, and Rikke Fredenslund Krølner

Department of Health and social context, National Institute of Public Health, University of Southern Denmark, Studiestræde 6, 1455 Copenhagen K, Denmark

*Corresponding author. E-mail: stkj@sdu.dk

Summary

Peer-led interventions are highlighted as promising strategies to promote health among adolescents, but little is known about the mechanisms underlying this approach. To better understand the role of peer mentors (PMs) as implementers in school-based health promotion, we combined participant observations, focus group interviews and video recordings to explore high school students' reception of a peer-led intervention component (Young & Active). Young & Active aimed to increase well-being among first-year high school students (~16 years of age) through the promotion of movement and sense of community and was implemented during the school year 2016–2017 in a larger school-based intervention study, the Healthy High School study in Denmark. The Healthy High School study was designed as a cluster-randomized controlled trial with 15 intervention schools and 15 control schools. At each intervention school, university students in Sports Science and Health (members of the research group) facilitated an innovation workshop aiming at inspiring all first-year students to initiate movement activities at schools. The findings illustrate potentials and challenges implied in the PM role. The peer mentors' profound commitment, as well as their response and sensibility to situational contingencies, were found to be significant for the students' reception and experience of the intervention. In conclusion, the specific job of PMs as implementers seems to consist of simultaneously following a manual and situationally adjusting in an emerging context balancing commitment and identification to the target group and the intervention project.

Lay Summary

Peer-delivery of health promotion is highlighted as a promising strategy to reach adolescents, but little is known about the mechanisms underlying this approach. To better understand the role of peer mentors (PMs) as implementers, we used qualitative methods to explore high school students' reception of a peer-led workshop (Young & Active) in a school-based intervention in Denmark. Young & Active aimed to increase well-being among first-year high school students (~16 years of age) through the promotion of movement and sense of community and was implemented during the school year 2016–2017. At each intervention school, university students in Sports Science and Health facilitated

an innovation workshop to inspire all first-year students to initiate movement activities at schools. We found different potentials and challenges implied in the PM approach. Balancing peer mentors' commitment and identification to the recipients and the intervention seems central.

Key words: peer delivery, adolescents, physical activity, school-based interventions, qualitative research

INTRODUCTION

Low physical activity (PA) levels among young people constitute a major public health concern worldwide (Chaput *et al.*, 2020). In Denmark, 51% of boys and 68% of girls in high school (16–18 years old) do not meet the national recommendation of engaging in at least 60 min of moderate physical activity (PA) daily and young people's participation in sport decreases during adolescence (Pilgaard, 2012; Pisinger *et al.*, 2019; Toftager and Brønd, 2019).

Schools are recommended settings for health promotion, but the effects of school-based interventions on PA levels among adolescents have been mixed (Dobbins *et al.*, 2013; Naylor *et al.*, 2015; Love *et al.*, 2019). Peer-led delivery of school-based PA interventions has been highlighted as a promising approach to reach young people (Ginis *et al.*, 2013; Christensen *et al.*, 2021).

There is a strong theoretical rationale for using peer-approaches in health care and health promotion (Payne *et al.*, 2003; Simoni *et al.*, 2011; Ginis *et al.*, 2013), e.g. in agreement with Social Cognitive Theory most guides for developing interventions include modelling as a method of behaviour change (Bartholomew *et al.*, 2011; Michie *et al.*, 2014). Peers can provide an example for students to aspire to or imitate (Michie *et al.*, 2014), and the influence of peers and friends on adolescents' sports participation is well documented in epidemiological studies (Duncan *et al.*, 2005; Fitzgerald *et al.*, 2012).

However, the evidence of peer-based interventions targeting a broad range of health outcomes including PA is mixed (Harden *et al.*, 2001; Webel *et al.*, 2010; Ginis *et al.*, 2013; Ramchand *et al.*, 2017; Christensen *et al.*, 2021). Conclusions are hard to reach across studies partly due to different applications (e.g. type of peer interaction, setting and the implied role of the peer) (Harden *et al.*, 2001; Dennis, 2003; Webel *et al.*, 2010; Ramchand *et al.*, 2017; Christensen *et al.*, 2021). Ginis *et al.* (Ginis *et al.*, 2013) point to the importance of studying the underlying mechanisms of how peer-based interventions are assumed to increase PA, for example by exploring participants' perceptions of the peers in order to investigate the quality of the peer-participant relationship.

Study aim

This study aimed to enhance our understanding of the distinct role of peer mentors (PMs) as implementers in school-based health promotion by exploring high school students' reception of a peer-led workshop in the Young & Active intervention (Y&A) in Denmark.

METHODS

Setting

Y&A was one of four intervention components tested in the cluster-randomized Healthy High School study (HHS). The HHS intervention aimed to increase well-being of first-year high school students by preventing stress and promoting regular sleep, strong sense of community, regular PA and movement, and regular and healthy meals (Bonnesen *et al.*, 2020b). All components were developed systematically based on the Intervention Mapping protocol and a comprehensive needs assessment (Bartholomew *et al.*, 2011; Bonnesen *et al.*, 2020b). It was implemented in the school year 2016/2017 at 14 intervention schools across Denmark (one high school randomized for intervention decided not to implement the intervention). The implementation of the various intervention components was investigated in multi-methods process evaluation studies (Bonnesen *et al.*, 2020a,b).

The Young & Active innovation workshop

Y&A was communicated as a 'youth-to-youth' intervention and specifically aimed to promote regular movement and sense of community as a pathway to student well-being. At each intervention school, university students in Sports Science and Health (PMs) facilitated innovation workshops to support the first-year students in inventing and planning new movement activities. Each workshop included approximately 50 students. Depending on the total number of first-year students, two to four workshops were conducted at each school. The first-year students were responsible for initiating and running the activities at the high school during the school year and it was therefore essential to explore their reception of the workshop including their interactions with the PMs in the present study. To support

purchase of equipment and facilities and implementation of activities, the students were encouraged to involve local sports clubs and they could apply the research team for a start-up grant. The PMs followed the same implementation manual, principles e.g. body-based exercises and materials for all workshops (Table 1). As preparation for the workshops, the research team appointed intervention coordinators at each school to circulate project information to the students and to recruit a couple of teachers to attend the workshop.

The programme theory (see Supplementary Appendix 1) illustrates how the intervention was expected to create a change at three socioecological levels (Sallis *et al.*, 2006; Bartholomew *et al.*, 2011; Dobbins *et al.*, 2013). The tasks of the PMs were (i) to *motivate* the students to move more by highlighting the benefits of even lighter movement activities on overall well-being and energy for managing the school day (Powell *et al.*, 2011). By avoiding a focus on intensity or duration of activities, the intention was to appeal to all students, including those who usually do not engage in sports; (ii) to *inform* about the opportunity of starting up new activities and gaining influence on school activities; (iii) to *inspire* the students to think creatively about movement and how movement can be integrated in lessons through the use of body-based exercises. The PMs presented movement as a wide concept which includes different types of activities that allow students to move together with schoolmates before, during and after school hours and will provide them with experiences of joy, energy and sense of community; (iv) to *illustrate* the fun and energy produced by movement activities; and (v) to provide *social support* during the workshops and encourage students to work closely together in the activity development process. The PMs were not responsible for mentoring the high school students in the process of implementing the ideas after the workshops.

The peer concept in Young & Active

The decision of using PMs as intervention providers was based on (i) a scientific rationale and a wish for experimenting with a new promising approach to change young people's PA levels (Ginis *et al.*, 2013), (ii) the funding agency's call for projects using this type of intervention delivery, and (iii) a coincidence followed by positive experiences with PMs: While the research group was developing Y&A and writing grant proposals they were contacted by four university students in Sports Science and Health who were looking for an internship. The students were specialized in innovation techniques and contributed significantly to the development of the

Y&A intervention. During their internship, they conducted five pilot workshops at selected high schools and refined the format and content of the workshop. Based on their youth and ability to connect with high school students during pilot workshops, the research group recruited them to act as PMs in the trial. The PMs recruited 10 of their fellow university students as co-facilitators.

A defining feature of peer concepts in previous studies is the sharing of personal characteristics such as age, educational level and background between the peer and the recipient (Shiner, 1999; Dennis, 2003; Fitzgerald *et al.*, 2012). In the context of health care and health promotion, where the peer is appointed to have a defined supportive role, the definitions also entail sharing circumstances or experiential knowledge, and training or preparation of the peer (Dennis, 2003; Simoni *et al.*, 2011).

The university students were experienced 'experts' without a professional background. Their expertise was based on their educational profile within sport and innovation, previous teaching experience within sports, and their personal experiences with being a high school student and doing sports during adolescence. We considered the age of the university students a dimension of similarity ('youth to youth') and anticipated that they could communicate the central messages at eye-level and act as role models for the high school students.

To promote a sustainable intervention, two different types of PMs were used throughout a three-year implementation period: (i) PM delivery by university students in the first project year (2016/2017) (the focus of this study), (ii) peer-maintenance the following 2 years (2017–2019) where senior high school students who had participated in the initial workshop facilitated workshops for new first-year students, thereby 'handing over' the intervention to future students.

Study design and analytical perspective

We used a multi-stringed qualitative methodological approach inspired by ethnography in the sense that we combined ethnographic methods such as participant observations including video recordings and focus group interviews, and spend time with the students to achieve a contextualized understanding of the students' reception of the workshops (Moore *et al.*, 2014; Sparkes and Smith, 2014; Madden, 2017). Our overall analytical perspective was inspired by the concept of participant responsiveness (PR) (Dane and Schneider, 1998; Carroll *et al.*, 2007; Durlak and DuPre, 2008). Carroll *et al.* (Carroll *et al.*, 2007) describe PR as encompassing

Table 1: Overview of the manual of the peer-led innovation workshop

Activity	Purpose	Description
Introduction	To introduce the purpose of the project and the workshop and provide safe and supportive conditions for being creative and innovative.	Presentation by facilitators of the social and mental benefits of PA. Introduction of the 'rules' for how to act at the workshop, e.g. having an open mind.
Movement activity: 'Bear, ninja, hunter'	To activate the students and create a positive atmosphere.	Like the hand game 'rock paper scissors', but with whole-body gestures.
Group formation	To create groups of 6–7 students, who will work together through the workshop.	Random group formation based in facilitated movement activity.
Generation and selection of ideas	To train the students in having a creative and innovative mindset through movement.	The students work in pairs with body-based improvised storytelling. The story starts with 'The bear was walking down the pathway, but suddenly. . .'
Movement activity: 'The bear on the pathway'	To allow the students to come up with new ideas for movement activities and to inspire them to think within the following domains: Event, recess, brain breaks, and collaboration with local sports club.	Through two brainstorm sessions, the students note down their ideas on sticky notes. Within the groups the students present their ideas.
Two brainstorm sessions	To select which ideas, they want to refine and implement.	Each student points out his/her personal preference and thereafter each group agree on one idea for further collective elaboration.
1. Free individual (unlimited)	To allow the groups to concretize their idea.	Using graphic materials, the groups answer questions of what, when, who, how, how often and why in relation to the idea.
2. Group-based within four domains	To create a positive and energetic atmosphere among students.	The facilitator improvises an energetic dance choreography for the students to mirror.
Selection of ideas	To let each group present their idea to the rest of the groups.	Short presentations in plenary by each group, allowing the audience to pose questions to refine the idea.
1. Individual preference	To support the students' further elaboration and planning of the activities.	Using graphic materials to plan how to initiate and implement the ideas at the school after the workshop. Creating a timetable and implementation plan and considering how to overcome challenges for implementation.
2. Group preference	To capture the students' immediate experience of the workshop.	Short oral evaluation plenary led by the facilitators.
Idea elaboration and implementation plans		
Description of idea		
Movement activity: mirror dance		
Group presentation of ideas		
Planning implementation of activities		
Evaluation		

participants' receptiveness and acceptability, how they respond to, are involved in and enact an intervention, their judgement about the outcome, relevance and usefulness and how far they accept the responsibility of the intervention (Carroll *et al.*, 2007). In this study, we focused on the students' understanding of the intervention aim and concept, and their response to and participation in the workshop, including reaction to and interactions with PMs. We examined the students' engagement in activity development to capture their judgement about relevance and accept of responsibility.

Data collection

S.K.W. conducted participant observations of workshops at 7 out of 14 schools, covering 11 out of 43 workshops. The seven schools were selected through a pragmatic strategy considering variation in school size, location (different regions within the country) and composition of the PM team. During each observation, S.K.W. adopted a role of 'observer as participant' (Sparkes and Smith, 2014, p. 101), staying in the margin of the situation, but now and then asking the students questions or answered theirs if necessary. This role was adopted to get an overview of the situation and to avoid getting in the way of the PMs. S.K.W. observed the students' reactions, interactions and participation during the various workshop phases, including their opinions expressed in an oral evaluation at the end of workshops, the role of the PMs and their interactions with students; the significance of the venue; and the importance of time. S.K.W. wrote descriptive and reflective notes while in and outside the field (Patton, 2002). At five schools, we included video recordings of the workshops to capture the wholeness of the situations and offering a supplementary perspective to the more close-up observations (Phoenix, 2010). The observations were also supplemented by the PMs' own assessment of each workshop written in a standardized form capturing their immediate reflections on the workshop.

To explore the students' collective experiences of the activity implementation processes, we conducted four focus group interviews with students ($n_{\text{students}} = 19$) during school hours at three schools (Wilkinson, 1998). Students were recruited by head teachers, and each focus group interview included students from the same school. One of the groups included only girls, whereas the rest were gender heterogeneous. In all four groups, the engagement in sports and activities at school varied between participants. The interviews were facilitated by members of the research team and recorded and took place from December 2016 to May 2017. As the

interviews were supposed to contribute to the process evaluation of the entire HHS, recruitment and timing depended on the schools' implementation of all intervention components. Research assistants, who were not part of the data collection, transcribed the interviews verbatim.

Ethical considerations

Upon headteachers acceptance to participate in the HHS study, they granted access to schools for research activities. All participating students were informed about the study aim, that data would be treated confidentially and anonymized. The students volunteering for focus group interviews were informed that they could withdraw their consent at any time. In cases of video recording, the camera was placed in the corner of the room with an angle leaving out the few students who did not want to appear in the video material.

Analysis

S.K.W. analysed and revisited the empirical material in four steps. Firstly, S.K.W. familiarized herself with the material by the open question *What is this a case of?* Here, a variety in the students' reception of the intervention was observed and the idea that this study was a case of reality being complex and 'acting' differently than expected emerged. Secondly, the analysis focused on main principles of the intervention (broad concept of movement, peer-to-peer, student-driven activities and innovation) which were related to the overall analytical perspective (Carroll *et al.*, 2007). Thirdly, S.K.W. closely examined the material for significant situations and experiences involving interactions between the students and the PMs, especially those found to be puzzling or challenging. By this process, the PMs' situational enactments emerged as significant. Fourthly, as part of the discussion of the study, the distinct phenomenon of PMs as implementers was described relating the findings to existing peer concepts (Dennis, 2003; Simoni *et al.*, 2011; Ginis *et al.*, 2013). The analytical steps were based on an abductive process moving between the material and the broad theoretical concept of PR, bearing in mind the assumptions underlying the intervention (programme theory in Supplementary Appendix) (Tavory and Timmermans, 2014). Preliminary findings and interpretations were discussed with a colleague experienced in ethnographic implementation research and co-authors including research group members, who knew the intervention and the workshops well.

RESULTS

This section presents the students' overall reception of the workshop followed by a look into the relational aspects of the PMs' workshop facilitation. This analytical split between intervention content and delivery offers a contextualized understanding of the PM delivery by summarizing selected challenges.

Students' reception of the intervention concept

During the observations, S.K.W. noticed that some students did not understand the overall purpose of the workshop or did not believe they could implement activities by themselves after the workshops. Questions like *'Are we really supposed to do this?'* and *'Isn't it just hypothetical?'* were often raised by the end of the workshops, and some students directly asked for a clearer explanation of the workshop purpose. When the students left the workshop, most of them left behind their papers with notes, idea descriptions and implementation plans for brainstormed activities, signalling their perception of mission accomplished.

The workshops took place in August–September immediately after high school entry, to give first-year students an active role in defining their social life at school (co-determination) from the beginning. In the focus group interviews, the students described how they by the time of the workshop struggled to figure out how the school was organized, and how Y&A was related to the general introduction course for first-year students. The written information we provided to the students as preparation for the workshop seemed to be insufficient.

Another important finding concerns the demonstration of movement. Despite the PMs' intention to facilitate an active workshop, some students called for more movement. As one disappointed student stated: *'I thought we were supposed to be physically active; we end up doing Danish (the subject)'*. The video material revealed that the exercises only included a little movement. The main phases of the workshop involved long periods of students being sedentary or standing at the same spot. The students' understanding and belief in the PMs' message of movement as applicable throughout the school day was probably challenged by their perception of movement playing only a minor role throughout the workshop.

During the brainstorm exercises, students were told to think creatively and not reject ideas. In the students' notes, S.K.W. observed a large amount of ideas centred around partying and alcohol consumption, expensive travels, or ideas without movement (e.g. cake event). This indicates that the framing of the idea generation

unintentionally became too wide and abstract, resulting in unrealistic ideas. This abstract framing probably also influenced the students' low expectations to the outcome of the workshop. As part of an oral evaluation at the end of a workshop, one girl stated: *'We would like to take this further, but in 1-2 months it will all be forgotten'*. This indicates general challenges related to the students' prerequisites for establishing the activities and belief in the concept as sustainable. Similarly, the interviewed students described how it would require a large effort and passion to implement the activities, and that only highly committed students would see the activities through. This was also mentioned in interviews held several months after the workshop indicating that the interviewed students were not passionate enough themselves. However, at that time, the students seemed to have understood and acknowledged the purpose of the workshop retrospectively.

Peer mentor workshop facilitation

Overall, the interviews indicated that the PMs had made a remarkable impression on the students. They all recalled the PMs as energetic and enthusiastic, and several students had experienced the PMs' positive attitude and energy as contagious. However, some students found the PMs' way of instructing *'intense'*, *'extreme'* and *'exaggerated'*, or disliked the body-based exercises, because they felt their boundaries were overstepped.

The articulated intervention: project terminology and translations

S.K.W. examined the PMs' tone, choice of words, and body language closely to explore the PMs' communication and interaction with the students, which enabled her to interpret the students' impression of the PMs. A picture emerged of the PMs' profound commitment to their job as workshop facilitators.

The PMs often used youth jargon and when the PMs got excited about the students' engagement, they credited them in this 'young' tone: *'You did an awesome job!'* or *'It's been so cool to work with you guys!'*. Judging by the students' own communication with each other, they were familiar with this jargon, and herein the PMs probably touched a dimension of mutuality.

During the observations, S.K.W. noticed that the PMs often used esoteric research project terminology, which seemed puzzling to the students. When asked to *'think innovatively'* to *'promote movement and sense of community'*, or to do *'an idea-generation based on certain domains'*, S.K.W. repeatedly observed question marks in the students' eyes. However, when the students

asked clarifying questions, the PMs did not hesitate to explain and 'translate' the expressions into a more accessible language.

To engage the students, the PMs also tried to speak to the students' sense of responsibility: '*This is your opportunity to influence your high school life*', '*No one will come and do this for you. You will need to do it yourself. But it's also a unique opportunity!*'. One of the suggested mechanisms in the programme theory (see Supplementary Appendix 1) was to strengthen students' action competences, opportunities for co-determination and sense of responsibility for their school life. The citations illustrate the PMs' attempt to highlight these principles of the intervention. However, articulating these expectations to the students seemed to miss the target. The students had just entered high school, and probably had not realized a need for extra social activities at the time of the workshop. Also, an educative tone appeared among the PMs when students acted against their expectations or showed resistance towards the workshop: '*The workshop will be most fun if the ideas are serious*' and '*Don't waste the sticky notes by playing with them; they are expensive!*'. This point illustrates that apart from being peers, the PMs also took on an educative role of authority.

Finally, several times the PMs used expressions such as '*for the sake of the project*' and '*It's very important for the project, and we also believe it will make a change for you*'. These expressions reflected their passionate commitment to the project. In the situations, however, these expressions seemed out of place and failed to motivate the students. Instead of illustrating the potential benefits of participating in the workshop to the students, the remarks were pointing back at the PMs' strong belief in the project. In summary, the different dimensions of commitment seemed to support the relations between the PMs and the students and activate the intended intervention mechanisms, but also seemed to work against the same mechanisms.

The enacted intervention: body language and manners

The PMs deliberately instructed the body-based exercises in a very animated way using active body language with large gestures and loud expressions. The students' reactions to this type of instruction varied from reluctance and shyness to excitement and active participation. Based on the observations, it seemed that many students generally liked the body-based exercises. Most students participated in the exercises, which in general carried laughter and raised energy. One girl shared her positive experience during the oral evaluation at the end

of the workshop: '*These activities we've been doing, no matter how ridiculous we looked, we've just been laughing at each other and used our bodies instead of just sitting staring into a screen. It was really good!*'. However, some students felt uncomfortable during the exercises, which was expressed either as non-participation or walkouts. In the interviews several months later, a number of students explicitly expressed that they had disliked the body-based exercises and had found them awkward and difficult to engage in, as they did not know their classmates well at the time of the workshop.

As mentioned, S.K.W. observed long periods of physical inactivity during the workshops, and several students expressed a wish for more movement. In some cases, the PMs reacted to this sense of collective restlessness and tiredness by improvising a movement activity, thus deviating from the manual. Most of the time, the students worked in groups sitting or standing around the 'group station'. Meanwhile, the PMs drifted around and guided the students through the assignments by engaging in an informal and friendly dialogue. During this calm guidance at eye-level, which came in stark contrast to the vivid instructions of the body-based exercises, the PMs seemed to 'connect' with the students at another level, which was reflected in the students' active participation in the dialogue.

This section illustrates how the bodily distances and boundaries between students and PMs changed during the workshop. One specific observation of a video-recorded situation where the PMs introduce a new body-based exercise of improvised storytelling ('The bear on the pathway') illustrates the ongoing process of changing boundaries:

In the introduction to 'The bear on the pathway', the students initially express a lot of scepticism. They are standing in a circle along the walls of the room. The two facilitators stand in the centre and illustrate the activity. They use large gestures and are very animated. Students are standing with their arms folded, heads askew and with somewhat reserved attitudes. Yet as the improvised story gradually becomes increasingly nutty—the facilitators yell loudly and throw themselves onto the floor—the students loosen up and laugh. When the students are asked to start telling their own improvised stories, they participate actively, and the available space is increasingly applied. Some of the students remain standing along the wall, miming on the spot, while others throw themselves onto the floor. The students take the activity seriously and are not afraid of putting themselves on display. They seem to have fun.

The example indicates how the students, through the body-based exercises, gradually engaged more in the

exercise. Based solely on the observation, they seemed to become more comfortable with the body-based exercise. In the present moment, the vivid instruction might have inspired them to participate. Taking the students' retrospective reflections on the workshop into account, another interpretation may be that some students had their boundaries pushed too much. The two perspectives on the same situation could both be valid interpretations, as the perception of bodily boundaries is determined by the specific social situation and hereby changeable in the spectrum between situational inspiration and persuasion, as well as social pressure as indicated above.

The active body language illustrated the PMs' intention to inspire the students to participate and think while moving, and to motivate them through animated instructions. The PMs were able to guide the students at eye level. Sometimes their efforts resulted in boundaries being pushed or even exceeded, but the observations showed that the PMs strived to adjust their approach to create a safe environment or to prevent restlessness, taking the specific situation into account.

DISCUSSION

The analysis showed that the high school students misunderstood the purpose of the workshop and did not realize that they were supposed to implement their ideas for activities after the workshop. This might be related to the timing of the workshop, the minor role actual movement played throughout the workshop, and the wide framing of the brainstorm exercises. When the students reflected on the Y&A intervention retrospectively, they found it to be a good initiative; however, they were not interested in and unable to commit to the effort of implementing activities after the workshop as they did not want to invest the amount of time they believed was necessary in that process.

The analysis of the students' reception of the peer-led Y&A workshop illustrates selected potentials and challenges implied in the role of PMs as implementers. At the workshop, the PMs' facilitation often seemed to result in a fruitful mentoring of the students. This included establishment of a mutual language, 'translation' of research terms, and eye-level group guidance. However, in some situations, the PMs' facilitation seemed to affect the interaction with students negatively, for example when the PMs felt compelled to take on an authoritative teacher role or when their effort of encouraging the students into challenging body-based exercises was experienced as pushing the students' boundaries too far.

The findings illustrate the significance of the PMs' commitment, as well as their response and sensibility to

situational contingencies. We consider PMs as implementers as positioned in-between various conditions and roles: in-between research and practice, young and adult, the intervention manual and the situational contingencies, and in-between having the responsibility for the intervention and passing it on to the students. We will nuance this perspective by discussing the findings in relation to three central elements of established peer-concepts: similarity and identification, the sharing of experiential knowledge, and effectiveness due to distinctive peer-role (Dennis, 2003; Simoni et al., 2011; Ginis et al., 2013).

Similarity, identification, and balancing accountability

Previous studies on peer-based health care and interventions generally agree on a peer concept based on similarity and mutual identification with the recipient, while at the same time emphasizing the importance of some dissimilarity regarding expertise and experience related to target phenomenon (Dennis, 2003; Simoni et al., 2011; Ginis et al., 2013). In Y&A, the students and the PMs were considered similar by being 'young' and 'student'. However, the actual age difference (16–17 years old versus 23–25 years old) and the fact that the PMs were students in a specialized field in higher education indicate a large degree of dissimilarity.

Dennis views (Dennis, 2003, p. 326) PMs as 'a created source' trained to a specific task of mentoring applying experiential knowledge and skills. Based on their educational backgrounds, the PMs in Y&A were trained in PA and innovation. The PMs may also be considered as 'a creating source', as they contributed to both development and implementation of the workshop. Within the field of PA, Ginis et al. (Ginis et al., 2013) note that PMs preferably should be physically active to share their experiences (Ginis et al., 2013). Our findings suggest, the PMs might have been too athletic. At times the PMs' strong commitment to the project also seemed to complicate or even work against the intention of the peer-strategy, because their role, including their accountability, became unclear. The PMs' use of esoteric research terms and body language expressing great bodily competence illustrated a professionalism, which might have reduced many students' perception of similarity and identification. Consequently, the mechanisms of the peer-strategy might not have functioned as intended or have even been counter-productive. Appointing the 'right' PM seems challenging, and the line between being experienced and too specialized seems delicate.

Common ground

Based on previous experience (and not formal training) related to a condition or transition, a PM can help a recipient facing a similar experience by offering support, understanding and counselling (Dennis, 2003; Simoni *et al.*, 2011; Ginis *et al.*, 2013). This sharing of experiential knowledge rests on the assumptions that the PMs have experienced a condition or transition comparable to the one the recipients face. In Y&A, this common ground would be the transition from an inactive to an active high school life and a transition from being a passive recipient to an active co-player in shaping the social school life. The PMs did not address this potential transition from a personal experiential perspective. Instead, the PMs aimed to illustrate the opportunity for 'transition' by using their own friends' experiences with initiating new activities as cases in the workshop presentation. Furthermore, their active body language illustrated a genuine sports identity, which they probably always have had. The students' mixed reception of the workshop and low implementation of new activities afterwards probably reflects that they did not recognize the problem the workshop intended to solve and therefore did not perceive a need for going through a transition by participating in the workshop. Similar to the process evaluation findings regarding the stress preventive initiative in the overall HHS study, this finding questions the proper timing of the workshop. In the beginning of the school year, students probably have not yet experienced and recognized problems of stress and inactivity (Bonnesen *et al.*, 2020b). When asked to reflect on Y&A retrospectively, the students found it to be a good idea and they acknowledged the need for more activities; however, the initiative seemed to be competing with other priorities in the students' lives, such as academic performance. Hence, as indicated, the assumptions about similarity and sharing of experiential knowledge implied in established peer concepts can be questioned in this project. Initially, we assumed that the peer-approach ('youth-to-youth') constituted a key intervention mechanism, but the analysis questions the idea of sole 'peerness'. However, compared to potential workshop facilitation by professional adults e.g. researchers, teachers or sports coaches there probably was a higher degree of 'peerness' between the PMs and the students despite dissimilarities and weak common experiential ground.

Effectiveness due to distinct role

Simoni *et al.* (Simoni *et al.*, 2011) state that 'peers are valued and thought to be effective in this work at least partly because of their status as peers and not solely

based on the services they provide' (Simoni *et al.*, 2011, p. 353). This element resonates the students' immediate impression of the PMs. Despite mixed experiences of the PMs' workshop facilitation, they left a remarkable impression.

As 'in-betweeners' connecting research to practice, we believe that the specific job of peer implementers consists of simultaneously adhering to a manual and adapting it to an emerging context balancing the commitment and identification to the target group and the intervention project. This balancing movement serves to start a process of shared understanding of the principles of the intervention between the research project and the target group (Rod *et al.*, 2014). The PMs for example adhered to the plan of instructing the exercises in an animate way, while at the same time respecting the students' boundaries and attempting to meet them at eye-level as mentors. Peer implementers are distinct compared to a general concept of peer as they require a thorough understanding of the intervention and the research-based principles and not just a familiarity with the target group and the PA behaviour.

Considering the context

The educational context entails certain affordances which influence the intervention delivery (Scarantino, 2003; Poland *et al.*, 2008). Apart from the material and physical surroundings (PowerPoint presentations, pens and papers for notes, classrooms and PE sport halls), a central affordance of the specific peer mentoring form was the inherent teacher–student constellation: one or two PMs instructing a group of approx. 50 students. Here, a tension seemed to exist for the PM: On the one hand creating a close connection offering social support and on the other hand inspiring the whole group to explore new ideas through an animate body language. The tension calls for didactical and pedagogical insights, especially in this case where the aim of the workshop was rather abstract to the students (Carroll *et al.*, 2007). Despite the PMs' experience with teaching sports and the consideration of involving enough PMs to be cover the students' need for support during the workshop, central aspects of communication were probably not considered sufficiently in the development of the intervention.

The students' limited adoption of the intervention, questions whether it is at all possible to engage first-year high school students in developing new initiatives for the sake of their well-being and social lives. Other studies have underlined the complexity of involving students in health promotion, and the type and degree of student

participation must be considered carefully (Bruun Jensen and Simovska, 2005; Griebler *et al.*, 2017). Danish High school students' everyday lives are in general characterized by aspects of pressure and performance related to time, school work and their social lives (Wehner *et al.*, 2021), and these constraints affect their possibilities for participating in sports (Thing *et al.*, 2015). Involving high school students in activities beyond the curriculum therefore seems to be a challenge.

Methodological considerations

For a research team deeply involved in the development of the intervention, the advantage of knowing all the details goes with the challenge of adopting a critical perspective as evaluators (Levin-Rozalis, 2003; Conley-Tyler, 2005). Evaluating the job of close colleagues (the PMs) was difficult. These challenges were continuously considered in the research group, and careful attention was given to critically exploring the assumptions of the intervention. Involving an experienced colleague who was unfamiliar with the project in the collaborative analysis and as co-author on this paper was a significant strength.

Additional strengths include the application of several data sources nuancing the findings, and the focus on the recipients' perspectives, which is highlighted as important in implementation research and process evaluation (Moore *et al.*, 2014). Ideally, the voices of the students had composed a larger part of the material to fully capture their responsiveness to the intervention; however, recruiting students for interviews was challenging. The interactive form in the focus group interview was useful because the students supported each other's memory. Also, this method allowed the research group to talk to more students at once. The comprehensive participant observations allowed us to explore patterns and differences in the students' spontaneous reception of the workshop and to consider the specific contexts.

The timing of the focus group interviews (3–9 months after the workshops) challenged the students' memory of specific elements of the workshop. A discrepancy between some of the observations and the students' experiences expressed in the interviews, such as their appreciation of the movement activities, could be viewed as a methodological limitation. Yet, we believe it is a strength illustrating a core finding: in the present moment, many students were carried away by the atmosphere, but reflecting upon it retrospectively, some students found it to be 'too much'. We consider it a matter of different types of knowledge illustrating different

aspects of the impression left by workshops and the PMs.

Implications

The study contributes to nuance established peer concepts. For example, future interventions applying a peer-approach should carefully consider the expected output and characteristics of appropriate PMs. To inspire young people and create a sense of identification, there seems to be a need for involving different types of PMs in delivering a new initiative.

Several studies emphasize the importance of training peer leaders, for example through 'train the trainers'-components [e.g. (Sebire *et al.*, 2019)]. This study illustrates the implications of involving PMs early in the intervention development. We believe the PMs' strong commitment and profound insight into the intervention was an advantage for the purpose of inspiring the students. However, their workshop facilitation might have benefitted from receiving additional training in communication skills and didactic methods.

Fun has been identified as 'the magic intervention ingredient' in PA interventions targeting young people (Van Sluijs and Kriemler, 2016, p. 2). However, as confirmed in this study, a challenge exists in sustaining young people's engagement in the intervention and not just create a moment of fun. According to several studies, PM and role model programmes are most effective when there is time for developing a long-term relationship, enabling more persistent support (MacCallum and Beltman, 2002; Dennis, 2003; Payne *et al.*, 2003). In Y&A, sustainability was presumed in the development of lasting activities and facilities and in the three-step implementation process where the PMs (university students) delivered a concept for future PMs (senior students) to maintain. We may question whether the initial intervention delivery by university students could be labelled as a peer-to-peer approach. However, considering the university students as change agents defined by Rogers as 'a communication link between a resource system with some kind of expertise and a client system' with the task to 'facilitate the flow of innovations' (Rogers, 2003, p. 368), the remarkable impression left by them might be a launch pad for senior high schools students taking on the role as PMs in the future. Hereby, the conceptual idea and the enthusiasm of the university students can be adopted by a group of PMs (Senior high school students) who match the recipients (first-year high school students) better and with the potential of greater mutual identification, an aligned common ground and more enduring mentorships.

CONCLUSION

This study explored the role of peer implementers by investigating high school students' reception of the peer-led Y&A intervention aimed to promote movement and sense of community. A close view on situations of interactions between PMs and students illustrated potentials and challenges implied in the PM role. Overall, the findings illustrate the PMs' profound commitment to the research project and their job as implementers, as well as their sensibility to situational contingencies. The study suggests a distinct perspective of PMs as intervention implementers covering their job of simultaneously following an intervention manual and situationally adjusting their enactment of the manual in the emerging context. This balancing act conveys the principles of the intervention and create a shared understanding between the PMs and the recipients.

SUPPLEMENTARY MATERIAL

Supplementary material is available at *Health Promotion International* online.

ACKNOWLEDGEMENTS

We would like to thank the high schools, students, teachers, and head teachers, for participating in Y&A as well as the university students who participated in developing and delivering the intervention: Andreas Jørgensen, Rasmus Hansen, Frederik Linkamp and Sarah Holstein Knudsen and their co-students. We would also like to thank the research assistants who transcribed the interviews.

FUNDING

This work was supported by the Nordea-fonden foundation [02-2015-1364].

ETHICAL APPROVAL

The Regional Scientific Ethical Committee, the Capital Region of Denmark, assessed the Healthy High School study (including Young & Active) and stated that formal ethical approval was not required (ref.: 16018722). The Healthy High School Study (including Young & Active) is registered at the Research and Innovation Office at University of Southern Denmark (ref: 10.703) allowing collection of personal data.

CONFLICT OF INTEREST

The authors declare that they have no competing interests. The funding agency was not involved in the design or conduct of the study.

REFERENCES

- Bartholomew, L. K., Parcel, G. S., Kok, G., Gottlieb, N. H. and Fernández, M. C. (2011) *Planning Health Promotion Programs: An Intervention Mapping Approach*, 3rd edition. Jossey-Bass, San Francisco.
- Bonnesen, C. T., Jensen, M. P., Madsen, K. R., Toftager, M., Rosing, J. A. and Krølner, R. F. (2020a) Implementation of initiatives to prevent student stress: process evaluation findings from the Healthy High School study. *Health Education Research*, **35**, 195–215.
- Bonnesen, C. T., Toftager, M., Madsen, K. R., Wehner, S. K., Jensen, M. P., Rosing, J. A. *et al.* (2020b) Study protocol of the Healthy High School study: a school-based intervention to improve well-being among high school students in Denmark. *BMC Public Health*, **20**, 95.
- Bruun Jensen, B. and Simovska, V. (2005) Involving students in learning and health promotion processes—clarifying Why? What? and How? *Promotion & Education*, **12**, 150–156.
- Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J. and Balain, S. (2007) A conceptual framework for implementation fidelity. *Implementation Science*, **2**, 40.
- Chaput, J. P., Willumsen, J., Bull, F., Chou, R., Ekelund, U., Firth, J. *et al.* (2020) 2020 WHO guidelines on physical activity and sedentary behaviour for children and adolescents aged 5–17 years: summary of the evidence. *International Journal of Behavioral Nutrition and Physical Activity*, **17**, 1–9.
- Christensen, J. H., Elsborg, P., Melby, P. S., Nielsen, G. and Bentsen, P. (2021) A scoping review of peer-led physical activity interventions involving young people: theoretical approaches. *Youth & Society*, **53**, 811–840.
- Conley-Tyler, M. (2005) A fundamental choice: internal or external evaluation? *Evaluation Journal of Australasia*, **4**, 3–11.
- Dane, A. V. and Schneider, B. H. (1998) Program integrity in primary and early secondary prevention: are implementation effects out of control? *Clinical Psychology Review*, **18**, 23–45.
- Dennis, C. L. (2003) Peer support within a health care context: a concept analysis. *International Journal of Nursing Studies*, **40**, 321–332.
- Dobbins, M., Husson, H., DeCorby, K. and LaRocca, R. L. (2013) School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6 to 18. *Cochrane Database of Systematic Reviews*, **2**, doi: 10.1002/14651858.CD007651.pub2.
- Duncan, S. C., Duncan, T. E. and Strycker, L. A. (2005) Sources and types of social support in youth physical activity. *Health Psychology*, **24**, 3–10.
- Durlak, J. A. and DuPre, E. P. (2008) Implementation matters: a review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, **41**, 327–350.

- Fitzgerald, A., Fitzgerald, N. and Aherne, C. (2012) Do Peers matter? A review of peer and/or friends' influence on physical activity among American adolescents. *Journal of Adolescence*, **35**, 941–958.
- Ginis, K. A. M., Nigg, C. R. and Smith, A. L. (2013) Peer-delivered physical activity interventions: an overlooked opportunity for physical activity promotion. *Translational Behavioral Medicine*, **3**, 434–443.
- Griebler, U., Rojatz, D., Simovska, V. and Forster, R. (2017) Effects of student participation in school health promotion: a systematic review. *Health Promotion International*, **32**, 195–206.
- Harden, A., Oakley, A. and Oliver, S. (2001) Peer-delivered health promotion for young people: a systematic review of different study designs. *Health Education Journal*, **60**, 339–353.
- Levin-Rozalis, M. (2003) Evaluation and research: differences and similarities. *The Canadian Journal of Program Evaluation*, **18**, 1.
- Love, R., Adams, J. and van Sluijs, E. M. F. (2019) Are school-based physical activity interventions effective and equitable? A meta-analysis of cluster randomized controlled trials with accelerometer-assessed activity. *Obesity Reviews*, **20**, 859–870.
- MacCallum, J. and Beltman, S. (2002) *Role Models for Young People: What Makes an Effective Role Model Program*, Australian Clearing House for Youth Studies, Hobart, Tasmania.
- Madden, R. (2017) *Being Ethnographic: A Guide to the Theory and Practice of Ethnography*, 2nd edition. London, Sage.
- Michie, S., Atkins, L. and West, R. (2014) *The Behaviour Change Wheel. A Guide to Designing Interventions*, 1st edition. Silverback Publishing, Great Britain.
- Moore, G., Audrey, S., Barker, M., Bond, L., Bonell, C., Hardeman, W. et al. (2014) Process evaluation of complex interventions. *UK Medical Research Council (MRC) Guidance*, 1–133.
- Naylor, P. J., Nettlefold, L., Race, D., Hoy, C., Ashe, M. C., Higgins, J. W. et al. (2015) Implementation of school based physical activity interventions: a systematic review. *Preventive Medicine*, **72**, 95–115.
- Patton, M. Q. (2002) *Qualitative Research & Evaluation Methods*. Sage Publications, Thousand Oaks, CA.
- Payne, W., Reynolds, M., Brown, S. and Fleming, A. (2003) *Sports Role Models and Their Impact on Participation in Physical Activity: A Literature Review*. VicHealth, Victoria, p. 74.
- Phoenix, C. (2010) Seeing the world of physical culture: the potential of visual methods for qualitative research in sport and exercise. *Qualitative Research in Sport and Exercise*, **2**, 93–108.
- Pilgaard, M. (2012) Teenageres idrætsdeltagelse i moderne hverdagsliv [Teenagers' Participation in Sports and Exercise in Modern Everyday Life]. *Scandinavian Sport Studies Forum*, **3**, 71–95.
- Pisinger, V., Thorsted, A., Jezek, A. H., Jørgensen, A., Christensen, A. I. and Thygesen, L. C. (2019) *UNG19—Sundhed og trivsel på gymnasiale uddannelser 2019*. National Institute of Public Health, Copenhagen.
- Poland, B., Frohlich, K. L. and Cargo, M. (2008) Context as a fundamental dimension of health promotion program evaluation. In Louise Potvin, David V. McQueen, Mary Hall, Ligia de Salazar, Laurie M. Anderson, Zulmira M.A. Hartz (eds), *Health Promotion Evaluation Practices in the Americas*. Springer, New York, pp. 299–317.
- Powell, K. E., Paluch, A. E. and Blair, S. N. (2011) Physical activity for health: what kind? How much? How intense? On top of what? *Annual Review of Public Health*, **32**, 349–365.
- Ramchand, R., Ahluwalia, S. C., Xenakis, L., Apaydin, E., Raen, L. and Grimm, G. (2017) A systematic review of peer-supported interventions for health promotion and disease prevention. *Preventive Medicine*, **101**, 156–170.
- Rod, M. H., Ingholt, L., Sørensen, B. B. and Tjørnhøj-Thomsen, T. (2014) The spirit of the intervention: reflections on social effectiveness in public health intervention research. *Critical Public Health*, **24**, 296–307.
- Rogers, E. M. (2003) *Diffusion of Innovations*, 5th edition. Free Press, New York.
- Sallis, J. F., Cervero, R. B., Ascher, W., Henderson, K. A., Kraft, M. K. and Kerr, J. (2006) An ecological approach to creating active living communities. *Annual Review of Public Health*, **27**, 297–322.
- Scarantino, A. (2003) Affordances explained. *Philosophy of Science*, **70**, 949–961.
- Sebire, S. J., Banfield, K., Jago, R., Edwards, M. J., Campbell, R., Kipping, R. et al. (2019) A process evaluation of the PLAN-A intervention (Peer-Led physical Activity iNtervention for Adolescent girls). *BMC Public Health*, **19**, 1203.
- Shiner, M. (1999) Defining peer education. *Journal of Adolescence*, **22**, 555–566.
- Simoni, J. M., Franks, J. C., Lehavot, K. and Yard, S. S. (2011) Peer interventions to promote health: conceptual considerations. *The American Journal of Orthopsychiatry*, **81**, 351–359.
- Sparkes, A. C. and Smith, B. (2014) *Qualitative Research Methods in Sport, Exercise and Health: From Process to Product*. Routledge, Abingdon.
- Tavory, I. and Timmermans, S. (2014) *Abductive Analysis: Theorizing Qualitative Research*. University of Chicago Press, Chicago.
- Thing, L. F., Nielsen, S. F. and Ottesen, L. (2015) Are young people caught in the time bind? A sociological analysis of how young people in an upper secondary school view the issue of finding time to do sports or exercise in their spare time. *Annals of Leisure Research*, **18**, 9–24.
- Toftager, M. and Brønd, J. C. (2019) *Fysisk aktivitet og stillesiddende adfærd blandt 11-15-årige: National monitorering med objektive målinger*. The Danish Health Authority, Copenhagen.

- Van Sluijs, E. M. F. and Kriemler, S. (2016) Reflections on physical activity intervention research in young people—dos, don'ts, and critical thoughts. *The International Journal of Behavioral Nutrition and Physical Activity*, 13, 25.
- Webel, A. R., Okonsky, J., Trompeta, J. and Holzemer, W. L. (2010) A systematic review of the effectiveness of peer-based interventions on health-related behaviors in adults. *American Journal of Public Health*, 100, 247–253.
- Wehner, S. K., Nielsen, C. S., Krølner, R. F. and Tjørnhøj-Thomsen, T. (2021) The meaning of movement in the everyday lives of Danish high-school students: a phenomenological study exploring existential well-being as 'dwelling-mobility'. *Qualitative Research in Sport, Exercise and Health*, 13, 488–506.
- Wilkinson, S. (1998) Focus groups in health research: exploring the meanings of health and illness. *Journal of Health Psychology*, 3, 329–348.