

Effects of student participation in school health promotion: a systematic review

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Summary

The aim of this systematic review was to summarize systematically the existing evidence for the effects of student participation in designing, planning, implementing and/or evaluating school health promotion measures. The focus was on the effects of participation in school health promotion measures rather than on student involvement at school in general. Participation is a core value for health promotion but empirical evidence of its outcomes is scarce. We searched major bibliographic databases (including ASSIA, ERIC, PsycINFO, Scopus, PubMed and the Social Sciences Citation Index). Two reviewers independently decided about inclusion and exclusion of the identified abstracts ($n = 5075$) and full text articles. Of the 90 full text articles screened, 26 papers met the inclusion criteria. We identified evidence for positive effects, especially for the students themselves, the school as organization, and interactions and social relations at school. Almost all included studies showed personal effects on students referring to an increased satisfaction, motivation and ownership, an increase in skills, competencies and knowledge, personal development, health-related effects and influence on student perspective. Given that student participation has more been discussed as a value, or ideal of health promotion in schools, these findings documenting its effectiveness are important. However, further research is needed to consider the level or intensity of involvement, different approaches and stages of participation in the health promotion intervention, as well as mediating factors such as gender, socio-cultural background or academic achievement, in a more systematic manner.

Key words: student participation; health promotion; effects

INTRODUCTION

Following the adoption of the UN Convention on the Rights of the Child in 1989 ([United Nations General Assembly, 1989](#)), the issue of children's participation has become imperative in policy, research, education and community development initiatives in many countries in Europe and elsewhere. Further, the preamble of the Revised European Charter on the Participation of Young People in Local and Regional Life ([Council of Europe, 2008](#)) emphasizes active participation of youth

as essential for building a better society. Young people have a right to both having a say and to appropriate conditions to participate in matters of importance to them. Despite this commitment to participation, in practice it often remains pure rhetoric and levels of participation are rather low.

On a conceptual level, participation is a key component of health promotion. Since the adoption of the Ottawa Charter ([World Health Organization, 1986](#)) and the developments that followed, participation has

been considered as an invaluable dimension of any strategy to achieving health promotion objectives, such as empowerment of individuals and communities and addressing the social determinants of health in addition to individual lifestyles. Unlike many other concepts within this area, the issue of participation is relatively ‘uncontested’. Although there is no uniform definition of participation (Simovska and Jensen, 2009a), there is a wide consensus that active engagement of the target group is crucial to the effectiveness of health promotion strategies. Participation of the target group in the decisions about design and implementation of health promotion programmes is thought to be helpful for the applicability, effectiveness in terms of improved health and health-related competencies and engagement and sustainability of such programmes (Clift and Jensen, 2005; Smith *et al.*, 2006; Reid *et al.*, 2008; Simovska and Carlsson, 2012).

One can, however, argue that it is because of the global consensus about the importance of participation and its normative framing that the concept in reality often remains on the rhetorical level (Contandriopoulos, 2004; Potvin, 2007). The term participation is so widely used that its meaning turned out to be rather vague and unclear (Hart, 1997, 2008; Simovska, 2007), referring to very different meanings ranging from simply taking part in activities, to being informed or consulted, to having significant influence over the decisions. This provides little guidance to practitioners and leads to a highly heterogeneous practice of undertakings called ‘participatory’. As discussed by Brandstetter *et al.* (Brandstetter *et al.*, 2014), especially the identification of indicators for evaluation of participation presents challenges for both researchers and practitioners, particularly if the evaluation is to be scientifically sound and at the same time nuanced and meaningful for practice. Although some research and literature reviews have been done, the evidence that participation in decision-making about health promotion initiatives has profound effects either on the health of the target groups or on the health-related determinants is limited (Nordin *et al.*, 2010; de Róiste *et al.*, 2012). To our knowledge, until now no systematic review on this specific topic in the school setting has been carried out.

Aims of the review

The main aim of the review was a systematic identification of the existing evidence for effects of student participation in school-based health promotion. Our objective was to specifically look into participation of students in designing, planning, implementing and/or evaluating

school-based health promotion measures. Therefore, in this study we focussed on student participation in health promotion initiatives rather than on student participation in other aspects of the school life.

METHODS

The current review builds on an earlier review that focused on the overall effects of student participation in school decision-making processes, conducted by the first author of this paper (Mager and Nowak, 2012).

Working definitions

Student participation

We defined student participation as practices that involve collaboration between students and various groups of actors concerning health-related issues in order to influence decision-making regarding designing, planning, implementation or evaluation of health promotion measures (Potvin, 2007). The review endorses the understanding of participation that distinguishes between a tokenistic and a genuine participation quality. Genuine student participation is defined as having influence over the decisions and activities in the school health promotion processes, rather than simply as taking part in them (Simovska, 2007; Hart, 2008). According to this conceptualization, simple forms of student participation such as answering questions and taking part in activities (e.g. sports or music) are not considered participation. We also do not confine participation to individual decision-making (as in curricular choices) but rather see it as a collaborative process.

Health promotion measures in schools

A health promotion measure in school can be a project, programme, intervention or any other school-based initiative with the aim to promote health, health behaviour, health-related competencies or other social and material determinants of health for students or other school-related stakeholders. This definition is based on the general definition of health promotion as the process of enabling people to increase control over and to improve their health (World Health Organization, 1986), adapted to school as a health promoting setting.

Effects of student participation

The effects of student participation are defined as outcomes, which can be categorized as positive, neutral or negative (Mager and Nowak, 2012). They are demonstrated using empirical—quantitative or qualitative—measures (e.g. questionnaires, interviews, observations)

and could be clearly determined to result from student participation in either designing, planning, implementing or evaluating a health promotion measure.

Literature search

For identifying research evidence we used a combination of several approaches—searching electronic databases, hand-searching key journals, checking reference lists and contacting experts. We focused on empirical studies addressing student participation in decision-making in health promotion initiatives at school, published in international peer-reviewed journals.

We searched keywords, titles and abstracts in major bibliographic databases of publications published between 1992 and September 2010. We used the following keyword combinations: (student* OR adolescent* OR child*) AND (participation OR involvement) AND (school) AND ('decision making' OR democracy OR governance OR 'health promotion' OR 'health promoting'). Moreover, we hand searched all issues (from December 2009 to February 2011) and supplement issues (from 1992 onwards) from selected journals and we additionally checked the reference lists of pertinent articles and contacted experts to provide relevant unpublished studies. Further information on the detailed search strategy is available in Griebler *et al.* (Griebler *et al.*, 2012).

Study selection criteria and procedures

During the study selection process, two researchers independently reviewed the abstracts and relevant full-text articles. Studies were excluded if both reviewers agreed that they did not meet the eligibility criteria. Disagreements were either resolved by a more profound discussion or—if a consensus could not be reached by considering the opinion of a third researcher. Books were excluded due to limitations concerning time, human and financial resources. Abstract and full-text review forms were developed and piloted on a sample of abstracts and full-text articles.

Table 1 shows the inclusion and corresponding exclusion criteria against all abstracts and full-text articles were screened.

Data extraction and study quality appraisal

For data abstraction a structured form was used. One reviewer abstracted data from each study. Then the second reviewer read each abstracted article and checked the accuracy and completeness of the abstracted data. Disagreements were resolved via discussion and consensus. We abstracted data concerning the research

question, the conceptual foundations of the study, the setting, the student participation processes and structures, sampling, the data collection process, the measures of student participation used, the measures of effects/outcomes of student participation used, the participants involved, the data analysis process and results indicating the effects of student participation. The data extraction forms were piloted by using a sample of five studies to ensure consistency and accuracy.

We included studies using quantitative and/or qualitative methods. For rating the quality of studies we used checklists for both qualitative and quantitative studies, developed earlier by the first author of this paper. Details about the checklists can be found in Mager and Nowak (Mager and Nowak, 2012). The following criteria were the basis for our quality rating: a clear research question; an appropriate empirical research approach; a clear description of appropriate sampling, data collection and data analysis procedures; a clear description of the study context; the findings; the value of the research; ethical issues and reflexivity (consideration of potential researcher bias).

Data analyses

To gain a conceptual map describing types of student participation and different effects of student participation, we conducted an integrative synthesis using the qualitative text interpretation process presented by Mayring (Mayring, 2000). With this method categories emerge inductively from the data in an iterative process. As a first step, the relevant text passages from the original articles on the data extraction sheets (concerning types of student participation as well as effects of student participation) were read and paraphrased. Thereafter, individual codes were assigned and then sorted into tentative categories. By reading and rereading the paraphrases and codes both categories and codes were revised and then the categories were reduced into main categories. To ensure that the categories fit the original text passages they were cross-checked by the research team. For helping the data analysis process we used the qualitative data analysis software ATLAS.ti (version 6.2.24).

RESULTS

Search results

Altogether 5075 abstracts or titles (if abstracts were not available) were screened. Of those, 4985 did not meet our eligibility criteria and were excluded and full texts of 90 abstracts were retrieved and further assessed. After

Table 1: Inclusion and exclusion criteria

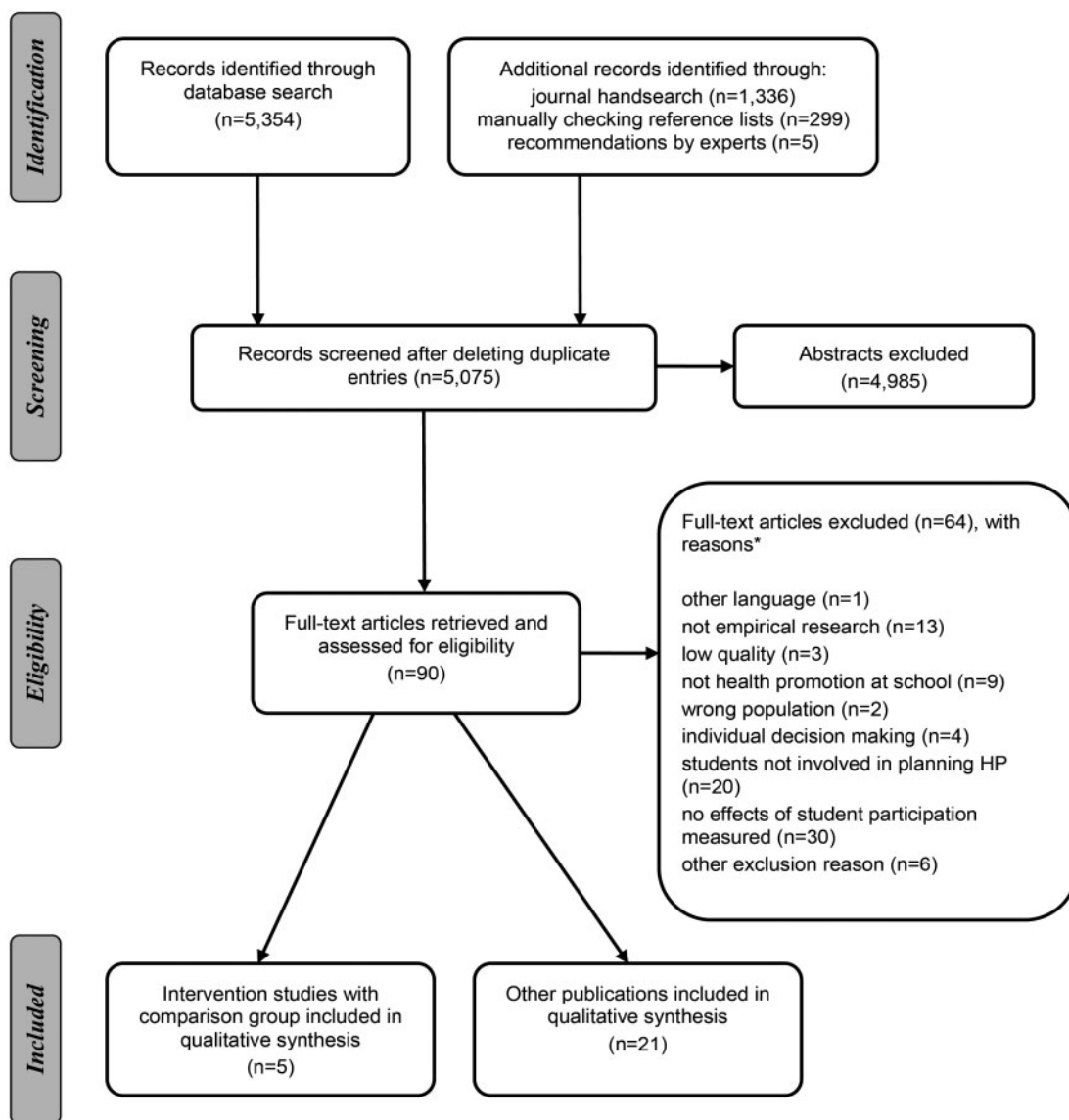
	Inclusion criteria	Exclusion criteria
Type of study/ publication	All types of empirical studies or reports describing empirical research about student participation in decision-making about health promotion measures at school were included	Publications describing anecdotal experience/not empirical studies Books and other grey literature were excluded except if suggested by experts
Language	All reports published in English, German and Danish were considered	
Participants	Children and adolescents, in any country, aged 5–19, who attended primary or secondary school, private or public schools	Publications describing participation of other populations (university or college students, kindergarten children, teachers, parents, community etc.)
Setting	All papers that describe health promotion measures in the setting school were considered	Publications describing student participation in another setting than school (e.g. community health promotion)
Intervention	All reports describing student participation in designing, planning, implementing and/or evaluating school health promotion were considered	Publications not describing student participation according to our definition, i.e. students taking part in health promotion, but not involved in planning, designing, implementing and/or evaluating the health promotion measure Articles describing participation rates or interventions to increase participation rates in health promotion programmes, without involvement of students in the planning or organizing phase of the project Publications describing individual decision-making of students (e.g. choosing sports lessons, etc.).
Outcome	Effects of student participation in designing, planning, implementing and/or evaluating school health promotion measures on the participating students, on other students, on the health promotion measure or on the school were considered	Publications without scientific quantitative or qualitative measure of any effects of student participation

this step, 64 publications were excluded and 26 publications were included in the qualitative data analysis (see Figure 1).

The 26 articles included for data synthesis discuss 24 studies/projects. Details and characteristics of these studies are shown in the online [Supplementary data, Appendix 1](#). According to the description of student participation in the original articles we separated the studies roughly in three types. Firstly, studies with experimental design including a comparison group ($n = 5$) (Wilhelmsen *et al.*, 1994; Mellanby *et al.*, 2001; Birnbaum *et al.*, 2002; Hamdan *et al.*, 2005; Carruth *et al.*, 2010). We analysed these studies separately and they are not part of this synthesis of effects of student participation because they had too diverse foci to be analysed together (general information about these studies can be found in the online [Supplementary data, Appendix 1](#)).

Secondly, participation of students in different phases of the intervention ($n = 11$), and thirdly, studies with a specific study approach ($n = 8$). In only one study

students participated in decision-making in all phases of the project from topic selection to evaluation (Valaitis and O'Mara, 2005), in five studies students participated in selection of the topic, planning and implementation (Carroll *et al.*, 1999; Mandel and Qazilbash, 2005; Gillander Gadin *et al.*, 2009; Bonell *et al.*, 2010a, b; Rowe *et al.*, 2010), in two studies in planning, implementation and evaluation of the project (Baskin *et al.*, 2009; Hong *et al.*, 2010) and in three studies students were part of the process of planning and implementation of the health promotion project (Brooks and Magnusson, 2006; Salmon *et al.*, 2005; Lakin and Littledyke, 2008). Studies with a specific participatory approach included four studies using a peer approach (Naylor and Cowie, 1999; Strange *et al.*, 2002; Streng, 2007; Goenka *et al.*, 2010), one project using participatory action research (Lind, 2007) and three studies using the IVAC (investigation-vision-action-change) approach (Simovska, 2007, 2008; Simovska and Jensen, 2008, Simovska and Jensen, 2009b). We analysed the effects of student participation in these 19 studies together,



*numbers do not add up, because more than one exclusion reason was possible

Fig. 1: Study flow diagram for the study selection process.

because there were too few studies to undertake meaningful comparisons. Two articles by Bonell *et al.* (Bonell *et al.*, 2010a,b) and two articles by Simovska (Simovska, 2007; Simovska and Jensen, 2008) were jointly analysed, because they each investigated the same study.

Almost all 19 studies used qualitative data generation methods or mixed methods; only one study included in our analysis was a quantitative study (Naylor and Cowie, 1999).

Almost all publications were rated as having either good ($n = 13$) or fair quality ($n = 12$); only one publication was rated as having poor, but sufficient quality to be included.

Effects of student participation

Table 2 outlines the effects of student participation based on a total of 19 studies, of which 11 reported student participation in different phases of the intervention

and 8 studies documented effects in relation to specific participatory approaches.

The table presents the following seven meta-categories; six refer to positive effects of student participation and one summarizes all negative effects (in descending order according to their occurrence in the included articles):

1. Personal effects on students
2. Effects on the school as an organization
3. Effects on interaction and relations
4. Effects on other stakeholders
5. Negative effects
6. Effects on the programme/project
7. Effects on the local community

Within each meta-category, the effects are further specified in several categories. The numbers in brackets in Table 2 refer to the number of studies that documented one or more effects in the particular meta-category and category, as a relative indicator of the ‘strength’ of the evidence within the boundaries of this review, which uses an integrated qualitative synthesis approach.

The comprehensive results of the synthesis of effects of student participation in school health promotion are presented in the online [Supplementary data, Appendix 2](#).

Personal effects on students

As shown in Table 2, the review shows the most evidence for personal effects on students. Within this meta-category we identified six categories of effects that included further subcategories (for details see online [Supplementary data, Appendix 2](#)).

The category *satisfaction, motivation and ownership* refers to affective effects of participation. These include students’ positive, motivating feelings concerning the participatory processes and a sense of ownership related to their own product and/or work. Studies also reported positive students’ experience with participation and increased learning engagement.

The category *skills, competencies and/or knowledge* includes cognitive effects reported in the studies. These refer to increased knowledge and health-related competencies of students, as well as an array of specific skills that are beneficial for health promotion but also in more general terms (e.g. communication skills, organizational skills, collaboration skills, problem-solving and decision-making skills).

The category *personal development* includes effects related to an individual self-perception, for instance increased self-confidence, self-esteem and self-efficacy.

Table 2: Effects of student participation in health promotion measures at school

Personal effects on students (18)	Effects on school as an organization (11)	Effects on interactions and relations (9)	Effects on other stakeholders (6)	Negative effects (6)	Effects on programme/project (4)	Effects on local community (1)
Satisfaction, motivation, ownership (15)	Cultural shift (7)	Peer relationships (6)	Satisfaction with the process (2)	*	Better inclusiveness of the programme (2)	*
Skills, competencies, knowledge (12)	School infrastructure (4)	Student–adult relationships (4)	Work relief for teachers (2)		Orientation towards local needs (2)	
Personal development (11)	School rules and policies (3)	Recognition and acknowledgement (2)	Dissemination of information (2)			
Health-related effects (10)	Curriculum changes (1)	Peer-cooperation (2)	Parents behaviour and commitment (1)			
Perspectives (9)	School engagement (2)					
Usefulness for life in general (1)	School climate (2)					
	Identification of service gap (1)					
	Acceptance/compliance with the rules (1)					
	Organizing events (1)					

* No subcategories within this meta-category.

Similarities and differences between these concepts are not discussed in the studies in question, thus the assumption is that there may be overlap and, arguably, that they are closely linked with the previous category, particularly the dimension of competencies.

Health-related effects are reported in more than half of the studies. As shown in Table 2, with respect to this category, improved health behaviour and increased health literacy were reported most often. Health literacy can also be seen as closely linked to the category of knowledge and competencies.

Positive influence on students' perspectives is a category that includes students' attitudes and problem solving orientation—for example, shifting the focus towards personal and social resources and potentials rather than deficits and difficulties when it comes to health promotion. Students also gained new insights, especially recognizing participation and collaboration as an important value.

Effects on *life in general*, e.g. usefulness for students' future career, are mentioned only in one study.

Effects on school as an organization

The review shows rather strong evidence (in terms of frequency of the studies that reported it) for the effects of student participation on the school as an organization. The school culture was reported changed in several studies. The change included a more conducive social environment towards participatory work. This, for example manifested in taking students seriously, listening to them and acting upon their inputs. Moreover, structural changes in the organization of the school were also documented, including improvements in the existing school infrastructure or establishing new infrastructure, changes in school rules or policies, changes to the curriculum or new class contents.

Connected to these effects on school as an organization and in some ways overlapping with or complementing them are the other documented effects presented in the table, such as an improved school engagement, better school climate, identification of service gaps with a view to improving it, and better acceptance and compliance with new rules.

Effects on interaction and relations

The studies that reported effects of student participation on interactions and relations at school referred to improved interactions among peers but also improvements of student–adult relationships. Other varieties of these effects were also documented, for example increased sense of acknowledgement and recognition by peers and

improved peer cooperation. This meta-category can be seen together with the previous one (effects on school as an organization) and could be considered as a part of the improved school culture.

Effects on other stakeholders

Participation of students in health promotion measures in school has shown to have effects on stakeholders beside students, mainly teachers and parents. Although a smaller number of studies demonstrated these effects we find them valuable. The effects that were documented within this category include general positive feelings and attitudes towards participatory health promotion work by teachers and/or parents, relief of the workload of the teachers through support by the participating students and general benefits by dissemination of information. One study documented effects on the behaviour and commitment of the parents as a result of the participatory health promotion work in school.

Negative effects

As shown in Table 2, several studies (6 studies presented in 7 publications) documented negative effects of student involvement in school-based health promotion. These effects can be on an individual student level or on a programme level. On an individual level the negative effects referred to students feeling ignored or not taken seriously, and students experiencing participation to be too challenging, that is, interfering with their school work. In terms of the programme level, the negative effects referred to a too small number of programme users and, in some cases, absence of dissemination.

Effects on the programme

Effects on the programme were documented in only four studies. These included an increased orientation towards local needs and priorities and a better inclusiveness of the programme/project.

Effects on local community

Only one study documented positive changes in the local community in terms of creating new and/or improving the existing possibilities for physical activity as a result of participatory health promotion in school.

In summary, the review demonstrates that participation of students in health promotion in schools has relatively strong effects on students. It positively influences their motivation and ownership, as well as their knowledge, skills, competence and confidence to address health issues. It also changes their perspectives concerning health and modifies their health-related behaviour. The

benefits of participation in terms of life in general are not conclusively confirmed. Additionally, positive effects have been shown on the school as an organization, and on social interactions at school. Some negative effects were documented as well, mainly concerning the feelings of disillusionment or pressure. Limited positive effects on the programme were documented in the studies and almost no effects on the local community surrounding the school.

DISCUSSION

This review maps the diverse effects of student participation in designing, planning, implementing and/or evaluating school health promotion measures documented in the literature. We identified evidence for positive effects, especially for the students themselves, for the school as organization and students' interactions and social relations at school. Effects that were shown less frequently were effects on other stakeholders besides students and negative effects. The least frequently documented effects were the influences on the intervention programme and on local community surrounding the school.

Almost all included studies showed personal effects on students referring to an increased satisfaction, motivation and ownership, an increase in skills, competencies and knowledge, personal development, health-related effects and influence on student perspectives towards health. All the personal effects on students taken together constitute aspects of 'action competence'. In the health promotion and health education literature action competence is defined as an individual's capacity to bring about health-promoting changes in one's life, and/or in the health-related determinants in the everyday life (Jensen, 1997; Carlsson and Simovska, 2012). The concept has been developed within the settings approach to health promotion (Dooris, 2009), particularly within schools as health-promoting settings (Nutbeam, 1998; Buijs, 2009). An important dimension of action competence is the nature of the action taken, with a main criterion being that it should be a result of a conscious decision of the individual initiating the changes and that it should be focused on the root causes of the health problem at hand. This implies a system rather than an individual approach. In this way, the concepts of participation and action competence connect school-based health promotion with the core task of the schools—learning and competence development without losing the focus on health determinants and empowerment.

Action competence need not necessarily be restricted to health. Regarded in a more generic manner, it represents the general competence to initiate changes at

school and elsewhere. It can be considered as an ability of students to actively participate in democratic processes in the society and influence matters of their concern (Simovska, 2008, 2012). In this way, participation of students in the process of health promotion at school can have a profound impact beyond health, contributing to competences for participation in general and thus to enforcing the rights of children in a broader sense. This is consistent with the Article 12 in the UN Convention of the Right of the Child stating that 'States Parties shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child' (United Nations General Assembly, 1989).

The differentiations, however, between the generic action competence and health-related action competence need to be further explored.

We also found evidence for student participation improving peer- and student–adult relationships. However, not only the interactions and relations at school seem to improve, also effects on the school as an organization were demonstrated on a structural level (class content, school policy/rules and infrastructure) as well as on a cultural level. The latter is coherent with the effects shown on interactions and relations, which could be considered as improvement of the school's social environment. Therefore, participation of students has a potential to contribute to better interactions and relations at school but also to a more comprehensive change of the school culture. Most effects on the organizational level referred to a participatory culture, indicating a more sustainable cultural shift.

The school ethos and the atmosphere at school are considered to be among the central constituents of the Health Promoting School approach (Denman *et al.*, 2002; Clift and Jensen, 2005; Buijs, 2009). Also the development of good relationships within the school and the promotion of self-esteem among pupils are emphasized by guidelines on health-promoting schools (Parsons *et al.*, 1996). In this sense, we could argue that participatory health promotion interventions are conducive to the development of the school as a health-promoting setting in general, beyond the specific health topic taken in individual interventions (Dooris, 2009). Thus, the positive effects shown by this review are corroborating existing expectations of student participation.

The results of the current review support and complement the findings of the systematic review on the general effectiveness of health promotion in schools

conducted by Stewart-Brown (Stewart-Brown, 2006). Stewart-Brown reports that programmes are more likely to be effective if informed by approaches including involvement of the whole school, changes to the school psychosocial environment, personal skill development, involvement of parents and the wider community, and implementation over a long period of time. All these factors are also emphasized in the general settings approach to health promotion (Dooris, 2009).

Similarly, a more recent although smaller scale review of literature (Nordin *et al.*, 2010) identified the following outcomes of the participatory health-promotion programmes: increased motivation and self-confidence among pupils, increased knowledge and awareness concerning health issues and a connection between participatory health-promotion interventions and healthy lifestyles in relation to smoking, alcohol consumption, diet and physical activity.

Evidently, our review supports these findings and brings more nuances to the evidence on the types of effects of the involvement of the students in school health promotion.

Beside the promising positive effects, we also found a few studies showing negative effects, referring to negative feelings (e.g. not taken seriously) or unmet expectations (e.g. symbolic rather than real influence). This is suggestive of the importance to work seriously with high expectations of students generated by participatory approaches. On the other hand, it was also reported that students sometimes felt overwhelmed with the responsibility of participation, which indicates the need for an appropriate balance between student support, guidance, autonomy and actual influence—a finding that seems to hold also for other fields where participatory approaches are promoted (Litva *et al.*, 2002). The literature on action competence (Jensen, 2000; Carlsson and Simovska, 2012) points to the need to further explore the negative effects of student participation, and the potential of utilizing these in the pedagogical work with students, as possibility for learning through facing and overcoming ‘real-life’ barriers.

Comparing our results with the ones shown in another recent systematic review on evidence about student participation in school decision-making in general, the latter showed basically no evidence of effects on health, but rather on school ethos, self-esteem, democratic and life skills and student-adult relationships (Griebler and Nowak, 2012; Mager and Nowak, 2012). This might indicate that the research on health promotion and the discourse on school democracy are not carried in a synergistic way, and that these two discourses are parallel, although they have many aspects in

common. This points to the need to reconnect these two discourses and to utilize the synergies between them, in terms of both health and educational outcomes.

All in all, it is clear from the literature included in this review that student participation in decision-making about health promotion interventions in schools has a lot to offer in terms of positive outcomes for students and for schools.

Strengths/limitations

To our knowledge, our review is the first systematic review on the evidence of effects of student participation in designing, planning, implementing and/or evaluating school health promotion measures. Working with a small, heterogeneous sample of studies meeting our criteria limits both meaningful comparison and answering questions going beyond descriptive and narrative synthesis. Because of the small number of included studies, the choice of the narrative, qualitative synthesis approach and the abundance of effects we could not elaborate on the strength and quality of effects more than to point out the effects that were shown most frequently. Furthermore, it was not clear from the evidence whether the effects apply to the majority of the students, or only to the students participating in the intervention. In addition, there is no documentation on the sustainability of the effects. This points to the need for further research, including follow up and in-depth longitudinal studies. The dominance of the effects on personal (student) and school (organizational) level could be a bias of the outcomes the studies focused on. In general, publication bias is a well-known problem in all fields of research—studies with positive results are more likely to be published than those with negative or insignificant results (Dickersin, 1990). Furthermore, the included studies and the approach of summarizing the reported effects preclude making statements of any missing effects that may be expected.

Although we made an effort to include grey literature sources by hand searching journals, checking reference lists and contacting experts, we may have missed important work that was published only in books. The inclusion of studies published in English, German and Danish may have excluded important work done in other languages.

Acknowledging the limitations, we believe that the evidence on the positive as well as negative effects identified with this review may help getting a more in-depth, precise and nuanced understanding of student participation which can inspire more comparable studies on this issue.

CONCLUSIONS AND IMPLICATIONS

The review demonstrates positive effects of student participation in health promotion measures on their outcomes. The evidence is most conclusive concerning:

- i. personal effects on students (increased ownership, motivation, positive attitudes, skills, competencies and knowledge, personal development, health-related effects and influence on student perspective)
- ii. effects on school as an organization (school culture and social climate, rules and policies and physical infrastructure)
- iii. improved interactions and social relationships in school (among peers and between students and adults)

These findings support the arguments for integrating participation in health promotion interventions in schools as one of the important dimensions of the setting approach to health promotion. Participation is important not only as a value or norm of health promotion, but also because it contributes substantially to its effectiveness. Within the school context, the effectiveness of health promotion interventions concerns both health and education outcomes, and genuine student participation seems to contribute to both.

With respect to the scientific discourse on the effects of participation, there is a need for more comparable research on this issue and a need of connecting the various discourses that deal with student participation essentially. As already highlighted, there are a number of benefits when the discourses on health promotion and on school democracy were to work more synergistically.

Some questions remain unanswered, such as why some studies show more positive effects than others, and why some show negative effects whereas others do not. Further research could do well to consider the level or intensity of involvement, different participatory approaches, participation in different stages of the health promotion intervention as well as mediating effects like gender, socio-cultural background or academic achievement, in a more systematic manner. An obvious line for further research would be the development of indicators of participation and strategies for their measurement.

With respect to the implementation of student participation, giving teachers a rationale for why they shall support and foster student participation could support taking action not only for students but also with them. As participation can have many faces and we did not find the one most promising mode of participation, we cannot suggest the one ideal approach. Depending on

the topic in question (e.g. healthy eating or sexual education) one approach might be more promising than another. But with respect to participation as challenge for both teachers and students, ongoing information, support and professional development could facilitate the cultural, organizational and attitudinal shift necessary for successful implementation of student participation and ensuring its promising effects.

Given that student participation has more been discussed as a value, or ideal of health promotion in schools, and the evidence on the actual effects of participation is limited, the findings of this review are important, especially if student participation should be taken seriously and utilized as more than mere rhetoric.

SUPPLEMENTARY DATA

Supplementary data are available at *HEAPRO* online.

REFERENCES

- Baskin, M. L., Zunker, C., Worley, C. B., Dial, B. and Kimbrough, L. (2009) Design and implementation of a pilot obesity prevention program in a low-resource school: Lessons learned and research recommendations. *Health Education*, **109**, 66–85.
- Birnbaum, A. S., Lytle, L. A., Story, M., Perry, C. L. and Murray, D. M. (2002) Are differences in exposure to a multicomponent school-based intervention associated with varying dietary outcomes in adolescents? *Health Education Behavior*, **29**, 427–443.
- Bonell, C., Sorhaindo, A., Strange, V., Wiggins, M., Allen, E., Fletcher, A. *et al.* (2010a) A pilot whole-school intervention to improve school ethos and reduce substance use. *Health Education*, **110**, 252–272.
- Bonell, C. P., Sorhaindo, A. M., Allen, E. E., Strange, V. J., Wiggins, M., Fletcher, A. *et al.* (2010b) Pilot multimethod trial of a school-ethos intervention to reduce substance use: building hypotheses about upstream pathways to prevention. *The Journal of Adolescent Health*, **47**, 555–563.
- Brandstetter, S., McCool, M., Wise, M. and Loss, J. (2014) Australian health promotion practitioners' perceptions on evaluation of empowerment and participation. *Health Promotion International*, **29**, 70–80.
- Brooks, F. and Magnusson, J. (2006) Taking part counts: adolescents' experiences of the transition from inactivity to active participation in school-based physical education. *Health Education Research*, **21**, 872–883.
- Buijs, G. (2009) Better schools through health: Networking for health promoting schools in Europe. *European Journal of Education*, **44**, 507–520.
- Carlsson, M. and Simovska, V. (2012) Exploring learning outcomes of school-based health promotion: a multiple case study. *Health Education Research*, **27**, 437–447.

- Carroll, G. B., Hebert, D. M. and Roy, J. M. (1999) Youth action strategies in violence prevention. *The Journal of Adolescent Health*, **25**, 7–13.
- Carruth, A. K., Pryor, S., Cormier, C., Bateman, A., Matzke, B. and Gilmore, K. (2010) Evaluation of a school-based train-the-trainer intervention program to teach first aid and risk reduction among high school students. *The Journal of School Health*, **80**, 453–460.
- Clift, S. and Jensen, B. B. (eds) (2005) *The Health Promoting School: International Advances in Theory, Evaluation and Practice*. Danish University of Education Press, Copenhagen.
- Contandriopoulos, D. (2004) A sociological perspective on public participation in health care. *Social Science and Medicine*, **58**, 321–330.
- Council of Europe. (2008) 'Have Your Say!' *Manual on the Revised European Charter on the Participation of Young People in Local and Regional Life*. Publishing, C. o. E., Strasbourg Cedex.
- Denman, S., Moon, A., Parsons, C. and Stears, D. (2002) *The Health Promoting School. Policy Research and Practice*. Routledge Falmer, London.
- de Róiste, A., Kelly, C., Molcho, M., Gavin, A. and Nic Gabhainn, S. (2012) Is school participation good for children? Associations with health and wellbeing. *Health Education*, **112**, 88–104.
- Dickersin, K. (1990) The existence of publication bias and risk factors for its occurrence. *JAMA: The Journal of the American Medical Association*, **263**, 1385–1389.
- Dooris, M. (2009) Holistic and sustainable health improvement: the contribution of the settings-based approach to health promotion. *Perspectives in Public Health*, **129**, 29–36.
- Gillander Gadin, K., Weiner, G. and Ahlgren, C. (2009) Young students as participants in school health promotion: an intervention study in a Swedish elementary school. *International Journal of Circumpolar Health*, **68**, 498–507.
- Goenka, S., Tewari, A., Arora, M., Stigler, M. H., Perry, C. L., Arnold, J. P. *et al.* (2010) Process evaluation of a tobacco prevention program in Indian schools—methods, results and lessons learnt. *Health Education Research*, **25**, 917–935.
- Griebler, U. and Nowak, P. (2012) Student councils: a tool for health promoting schools? Characteristics and effects. *Health Education*, **112**, 105–132.
- Griebler, U., Rojatz, D., Simovska, V. and Forster, R. (2012) *Evidence for Effects of Student Participation in Designing, Planning, Implementing and Evaluating School Health Promotion. A Systematic Literature Review*. Ludwig Boltzmann Institute Health Promotion Research, Vienna.
- Hamdan, S., Story, M., French, S. A., Fulkerson, J. A. and Nelson, H. (2005) Perceptions of adolescents involved in promoting lower-fat foods in schools: associations with level of involvement. *Journal of the American Dietetic Association*, **105**, 247–251.
- Hart, R. (1997) *Children's Participation: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care*. Earthscan Publications Limited, New York.
- Hart, R. (2008) Stepping back from 'the ladder': Reflections on a model of participatory work with children. In Reid, A., Jensen, B. B., Nikel, J. and Simovska, V. (eds), *Participation and Learning: Perspectives on Education and the Environment, Health and Sustainability*. Springer, New York, pp. 19–31.
- Hong, J., Fongkaew, W., Senaratana, W. and Tonmukayakul, O. (2010) Development of a theory-based sexual and reproductive health promotion and HIV prevention program for Chinese early adolescents. *Nursing & Health Science*, **12**, 360–368.
- Jensen, B. B. (1997) A case of two paradigms within health education. *Health Education Research*, **12**, 419–428.
- Jensen, B. B. (2000) Health knowledge and health education in the democratic health promoting school. *Health Education*, **100**, 146–153.
- Lakin, L. and Littleldyke, M. (2008) Health promoting schools: Integrated practices to develop critical thinking and healthy lifestyles through farming, growing and healthy eating. *International Journal of Consumer Studies*, **32**, 253–259.
- Lind, C. (2007) The power of adolescent voices: co-researchers in mental health promotion. *Educational Action Research*, **15**, 371–383.
- Litva, A., Coast, J., Donovan, J., Eyles, J., Shepherd, M., Tacchi, J. *et al.* (2002) 'The public is too subjective': public involvement at different levels of health-care decision making. *Social Science and Medicine*, **54**, 1825–1837.
- Mager, U. and Nowak, P. (2012) Effects of student participation in decision making at school. A systematic review and synthesis of empirical research. *Educational Research Review*, **7**, 38–61.
- Mandel, L. and Qazilbash, J. (2005) Youth voices as change agents: Moving beyond the medical model in school-based health center practice. *Journal of School Health*, **75**, 239–242.
- Mayring, P. (2000) Qualitative content analysis. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, <http://www.qualitative-research.net/index.php/fqs/article/view/1089/2383>.
- Mellanby, A. R., Newcombe, R. G., Rees, J. and Tripp, J. H. (2001) A comparative study of peer-led and adult-led school sex education. *Health Education Research*, **16**, 481–492.
- Naylor, P. and Cowie, H. (1999) The effectiveness of peer support systems in challenging school bullying: the perspectives and experiences of teachers and pupils. *Journal of Adolescence*, **22**, 467–479.
- Nordin, L., Jensen, J. and Simovska, V. (2010) Unges deltagelse i sundhedsfremme: hvad siger litteraturen. [Young people's participation in health promotion: what does the literature say]. *Cursiv*, **5**, 77–101.
- Nutbeam, D. (1998) *Health Promotion Glossary*. World Health Organization, Geneva.
- Parsons, C., Stears, D. and Thomas, C. (1996) The health promoting school in Europe: conceptualising and evaluating the change. *Health Education Journal*, **55**, 311–321.

- Potvin, L. (2007) Managing Uncertainty through Participation. In McQueen, D. and Kickbusch, I (eds), *Health and Modernity: The Role of Theory in Health Promotion*. Springer, New York, pp. 103–128.
- Reid, A., Jensen, B. B., Nikel, J. and Simovska, V. (eds) (2008) *Participation and Learning: Perspectives on Education and the Environment, Health and Sustainability*. Springer, New York.
- Rowe, F., Stewart, D. and Somerset, S. (2010) Nutrition education: towards a whole-school approach. *Health Education*, **110**, 197–208.
- Salmon, D., Orme, J., Kimberlee, R., Jones, M. and Murphy, S. (2005) Implementing the Rock Challenge: Young people's perspectives on a drug-prevention and performing arts programme. *Journal of Research in Nursing*, **10**, 339–353.
- Simovska, V. (2007) The changing meanings of participation in school-based health education and health promotion: the participants' voices. *Health Education Research*, **22**, 864–878.
- Simovska, V. (2008) *Participation, Action and School-Community Collaboration: Case Study of School-Based Health Promotion to Influence Determinants of Childhood Obesity—Maastricht*. Danish School of Education, Copenhagen.
- Simovska, V. (2012) Case Study of a Participatory Health Promotion Intervention in School. *Democracy & Education*, **20**, 1–10.
- Simovska, V. and Carlsson, M. (2012) Health-promoting changes with children as agents: findings from a multiple case study research. *Health Education*, **112**, 292–304.
- Simovska, V. and Jensen, B. B. (2008) On-line learning environments and participatory health education: teachers' reflections. *Journal of Curriculum Studies*, **40**, 651–669.
- Simovska, V. and Jensen, B. B. (2009a) *Conceptualizing Participation—the Health of Children and Young People*. World Health Organization Regional Office for Europe, Copenhagen, Denmark.
- Simovska, V. and Jensen, B. B. (2009b) *Shape Up Europe: A School-Community Approach to Influencing the Determinants of Childhood Overweight and Obesity*. Lessons Learnt. P.A.U. Education, Barcelona.
- Smith, B. J., Tang, K. C. and Nutbeam, D. (2006) WHO Health Promotion Glossary: new terms. *Health Promotion International*, **21**, 340–345.
- Stewart-Brown, S. (2006) What is the evidence on school health promotion in improving health or preventing disease and, specifically, what is the effectiveness of the health promoting schools approach? WHO Regional Office for Europe (Health Evidence Network report), Copenhagen.
- Strange, V., Forrest, S. and Oakley, A. (2002) Peer-led sex education—characteristics of peer educators and their perceptions of the impact on them of participation in a peer education programme. *Health Education Research*, **17**, 327–337.
- Streng, N. J. (2007) A follow-up study of former student health advocates. *The Journal of School Nursing*, **23**, 353–358.
- United Nations General Assembly (1989) Convention on the rights of the child, United Nations.
- Valaitis, R. and O'Mara, L. (2005) Enabling youth participation in school-based computer-supported community development in Canada. *Health Promotion International*, **20**, 260–268.
- Wilhelmsen, B. U., Laberg, J. C. and Klepp, K. I. (1994) Evaluation of two student and teacher involved alcohol prevention programmes. *Addiction*, **89**, 1157–1165.
- World Health Organization. (1986) Ottawa Charter for Health Promotion. World Health Organization Europe, Geneva.