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# Health-promoting school indicators: schematic models from students

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## Abstract

**Purpose** – The purpose of this paper is to outline a three-stage process for engaging with students to develop school level indicators of health; in sequential class groups students first generated, then categorised indicators and finally developed schematic representations of their analyses. There is a political and practical need to develop appropriate indicators for health-promoting schools. As key stakeholders in education, students have the right to be fully engaged in this process.

**Design/methodology/approach** – The sample in this paper comprised 164 students aged 16-17 years in three medium-sized Dublin schools. In the first classroom, students answered the question “If you moved to a new school, what would it need to have to be a healthy place?” on individual flashcards. In the second classroom students classified the flashcards into groups using a variation of the card game “snap”. In the third classroom, students discussed the relationships between the developed categories and determined how the categories should be presented. These procedures were repeated twice in three schools, resulting in six developed schemata.

**Findings** – The paper finds that the six sets of categories showed remarkable similarity – physical aspects of the school predominated but emotional and social health issues also emerged as potential indicators. The schema demonstrated the holistic perspectives of students. They illustrate the importance of relationships and the physical and psycho-social environment within schools.

**Originality/value** – The paper illustrates that students can productively engage in the process of indicator development and have the potential to act as full stakeholders in health-promoting schools. The methods enabled student control over the data generation, analysis and presentation phases of the research, and provided a positive, fun experience for both students and researchers.

**Keywords** Health education, Schools, Ireland, Scotland

**Paper type** Research paper



## Introduction

Schools have been identified as a key setting for health promotion, development and improvement. Dooris (2005) acknowledges the effectiveness of the settings approach on a number of levels; it encourages multi-stakeholder ownership, allows connections between people and enables interactions between different health issues. It also has the potential to provide “an efficient and effective framework for planning and

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implementing health promotion initiatives and ultimately assessing their impact” (Goodstadt, 2001, p. 209).

A series of workshops, the first held in 1998, looking at the fundamental difficulties inherent to evaluating the promotion of health in schools have been hosted by the World Health Organization (WHO) and the Swiss Federal Office of Public Health. At the “Fourth workshop on practice of evaluation of the Health Promotion School (HPS) – concepts, indicators and evidence” the focus was on issues relating to the development and selection of indicators. Representatives from 33 countries participated in workshops discussing indicators and one of the conclusions was that a set of, and framework for, basic common indicators is required (Rasmussen, 2005). Teams of researchers were encouraged to work on the development and measurement of indicators at the individual, school, regional, national or international level. The need for student participation when developing indicators was identified by some of the representatives. This paper is based on the Irish and Scottish team’s contribution to that process.

Indicators have become important in understanding the objectives, processes and outcomes of both the health and education sectors, and their many components. In health promotion and health education these indicators provide us with information on which to base decisions and judgments about resource allocations, policy, awareness raising, as well as the efficiency, effectiveness and feasibility of particular interventions and programs, and about “best practice” (St Leger, 2000). Ranges of indicators or models for indicator development have been proposed (e.g. World Health Organization, 1996; Viljoen *et al.*, 2005; St Leger, 2004). However, it is generally agreed that developing a set of indicators to guide the implementation of health promotion programmes in educational sectors should be done in consultation with all the stakeholders (Konu and Rimpelä, 2002; Deschesnes *et al.*, 2003) and may have greater potential to improve practice at the school rather than the national or international level (Young, 2005).

Firmly rooted in articles 12 and 13 of the UN Convention of the Rights of the Child, the Irish National Children’s Strategy (Department of Health and Children, 2000, p. 16) asserts that “children are active participants in the world which continues to experience increasing change”. In line with this, the first goal of the strategy expresses a commitment to give children a voice in matters that affect them. Such empowerment is central to the ideology of health promotion. It represents a primary criterion for identifying health promotion initiatives (Raeburn and Rootman, 1998). Poland *et al.* (2000) argue that an initiative can be classified as a health promotion initiative if it exhibits the use of health promoting principles, such as the process of enabling or empowering individuals or communities, while Nilsson (2005) explains how empowerment in the classroom can develop the student’s confidence and ability, facilitating their holistic development within an academic environment. Consonant with the principle of empowerment, health promotion emphasises participation. Health promotion principles and strategies such as participation and empowerment could be employed at all stages of an intervention to improve health, including during needs assessment, planning and evaluation.

A myriad methods have been developed in the search for appropriate ways to encourage student participation and to evaluate school health promotion. Indeed, Piette

*et al.* (1995, 1999) presented an imaginative and influential toolbox of potentially appropriate methods as part of the EVA projects. Probably the most powerful approach designed to facilitate children to express their own opinions and perceptions is the “draw and write” technique, originally developed by Noreen Wetton and the HEA Primary Schools Project Team in Southampton (Williams *et al.*, 1989; MacGregor *et al.*, 1998; Nic Gabhainn and Kelleher, 1998; 2002). MacGregor *et al.* (1998) used this technique to elicit student’s ideas about health generally, and more specifically their views on the qualities schools need to promote health. This research contributed to the development of evaluation instruments for primary schools planning to develop the Health Promoting School concept in Scotland. In a classroom setting, students were read a scenario introducing a healthy school and then asked to draw a picture of the school, writing alongside the drawing what makes it healthy. They were also asked to write down what would make their own school healthy. Students identified a range of issues relating to health education, school ethos and the relationship between the school and its surroundings; all elements of the health promoting school concept.

However, common to most of these methods is that researchers are employed to analyse, interpret and present research findings and outcomes. Thus the process becomes dependent not only on the skills and experiences of such “outsiders”, but also on their political and epistemological standpoints in relation to the voice of the child. Nic Gabhainn and Sixsmith (2005, 2006) and Sixsmith *et al.* (2007) present an alternative, where the research participants consciously retain the power inherent to the analysis and presentation phases of the research process. As in the draw and write technique, children are asked to respond to an initial question, however the raw data they generate, rather than being gathered up by researchers to be taken away, is brought to another group of children for analysis, and to a third group for organisation and presentation. In previous studies employing this method (Nic Gabhainn and Sixsmith, 2006; Sixsmith *et al.* (2007)) the data generated and analysed were in the form of photographs, a relatively expensive and time consuming approach, and the appropriateness of the procedures adopted for other types of data, for example text, is to date unknown.

Thus this paper aims to explore the feasibility of employing participative methodologies, incorporating the analysis of textual data and data presentation by school students as a process for developing school level HPS indicators.

## **Method**

### *Design*

This is a three-stage design, with each stage involving active student participation. Stage 1 involves the generation of data from a group of students, stage 2 comprises the categorisation of these data and stage 3 is the organisation and presentation of the developed categories. Each of the three stages is undertaken by a different group of the same age peers within a single school.

### *Sample*

Students were accessed through three post-primary schools in Dublin. Schools were purposively selected and comprised one for boys only, one for girls only and one co-educational school, each with between 400-600 pupils aged 12-18, which would be

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typical in Ireland. None of the schools described themselves as “health-promoting schools”, although all offered a curriculum in social, personal and health education (SPHE), as required by the national Department of Education and Science (circular M11/03). Three class groups were involved in each school, all drawn from the fourth year of post-primary education, which for most is the first year post-compulsory education.

Consent was obtained in the first instance from school principals and management, and subsequently from parents and students. Passive consent forms were distributed to parents via students, and active consent was requested from all participating students at the beginning of the classroom sessions. Such consent was processual; all were free to withdraw, without censure, at any stage of the process. No parent withdrew their child and no student refused to participate or withdrew themselves.

### *Procedures*

Following a brief introduction to the study and the collection of both parental and student consent, ground rules, including in all cases confidentiality, were agreed with each group. Students were briefed about the other sessions that had or were to take place. All sessions took place in classrooms, were facilitated by experienced schoolteachers and were audio-recorded. Each sequential stage involved a separate class group, and at the end of each session, students played a group game.

### *Stage 1*

The first stage involved gathering textual data based on individual students responses to two questions “What is it about school that affects your health?” and “If you moved to a new school, what would it need to have to be a healthy place?”. Both questions were placed on the black or white board in classrooms. Students wrote their responses on cards, using a separate card for each answer or new idea. Each student was initially given ten cards, and further cards were available throughout. One of the rationales for the first question was to facilitate answers to the second. Responses to both questions were treated separately, and this paper focuses on the analysis and reporting on replies to the second question.

### *Stage 2*

Stage two involved data categorisation with students from a second-class group, divided into two sub-groups. Each of the two sub-groups was given half of the cards generated at stage 1, and was invited to play the “snap” game:

- The youngest person present dealt out the cards as equally as possible among group members. They were viewed face-up.
- The student to their right called out the response on their first card and laid it on the table.
- Other group members placed cards they perceived to be similar on top of the first card to form a category.
- The game continued until all cards were used up and all categories had been formed.

As a group they reviewed the constructed categories, and were free to add new cards. Each category of cards was stapled together and the group agreed a category title, which was secured with an elastic band.

*Stage 3*

The third stage involved data presentation by the third class group, also divided into two sub-groups. The students were given the question, response cards and category titles developed during the two previous stages. The students were invited to consider how the categories could be arranged or organised into a pattern, on double A1 posters. They were not explicitly asked to order them in any way or place them in a hierarchy. In most cases, students read the stapled bundles to aid their understanding of the category titles, all participants had access to the response cards, but not all read each of them. Extra cards were given to each group so that new contributions were facilitated. In each group some of the original categories were removed and others added, and some category titles were amended. When the groups were satisfied with their category arrangement, they affixed the category title cards onto the posters with tape, some sub-groups also wrote their own comments on the posters, or linked the category titles with arrows.

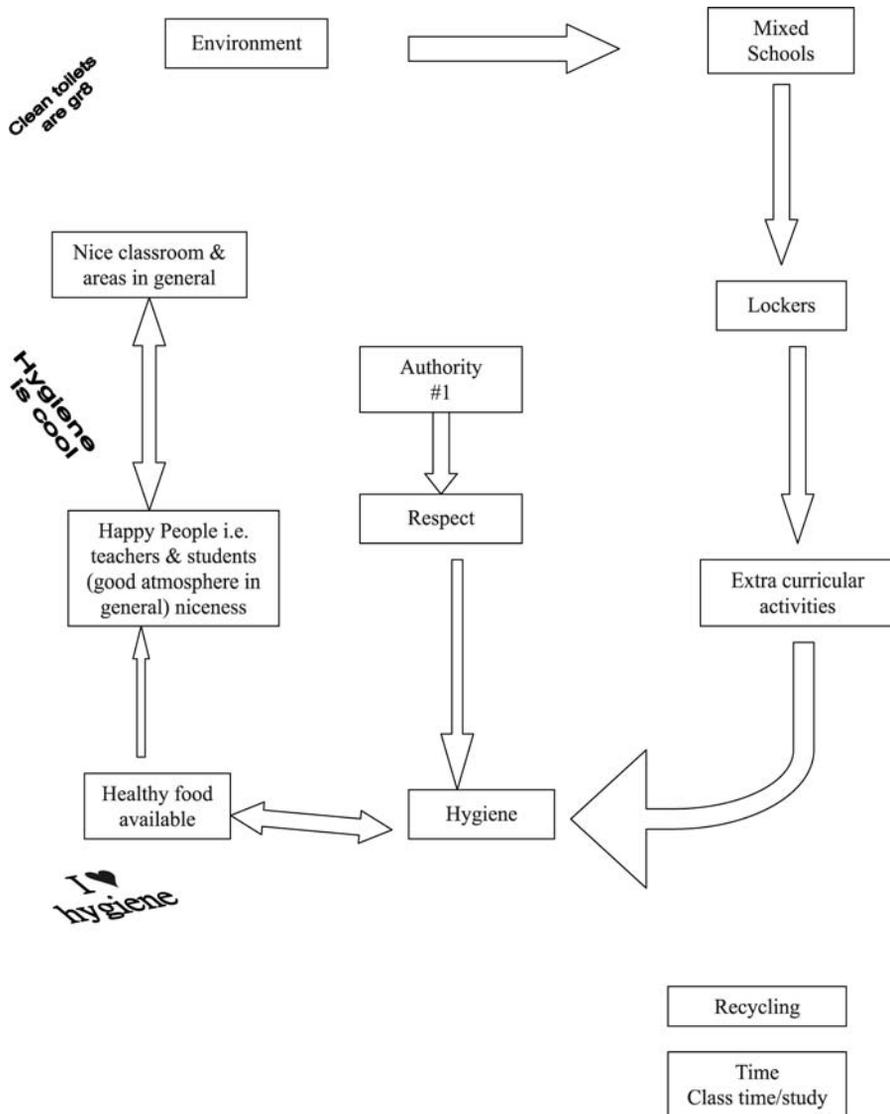
**Findings**

In total, 164 students in nine class groups participated across the three schools. Table I presents the numbers, gender and age of the students by school, along with the number of responses volunteered by students in stage 1 and the number of categories developed in stage 2.

During the schema development in stage 3, 16 (20.7 per cent) of the original 77 categories were removed and 15 new categories added. However, only three of these 16 were among the largest 30 categories. Two of the six sub-groups placed categories from stage 2 at the edge of their posters, indicating that they perceived them to be marginal to their schema. Five of the six sub-groups wrote on the poster. The content of their comments varied; some explained the layout, while others were explanatory of the schema content. Five sub-groups reworded category titles, though not more than three per sub-group; these new titles were less abstract and more reflective of the category content (see Figures 1-6).

**Table I.**  
Characteristics and responses of students by school

School	Age in years	Mean (sd)	Group/ stage	Male (n)	Female (n)	Responses
A	16.18	(0.53)	1		25	203 cards
			2		28	sub-group 1 – 11 categories
			3		20	sub-group 2 – 12 categories
B	16.29	(0.67)	1	18		131 cards
			2	15		sub-group 1 – 11 categories
			3	20		sub-group 2 – 15 categories
C	16.29	(0.65)	1	14	1	58 cards
			2	6	4	sub-group 1 – 15 categories
			3	8	5	sub-group 2 – 13 categories



**Figure 1.**  
Schema school A,  
sub-group 1

During stage 3, students developed six independent schemata; based on the six sets of categories. These schemata have various structures. The two clearest hierarchical schemata are from the all-girls (A) and the all-boys (B) schools respectively. The boys' schema (Figure 4) has a very distinct layout, it is numbered and structured to relate order of importance. The girls' schema (Figure 2) is depicted in "level of importance". These levels are internally related to sub levels. Sub-group 1 in the girl's school developed a semi-hierarchical schema (Figure 1). It has two categories which are

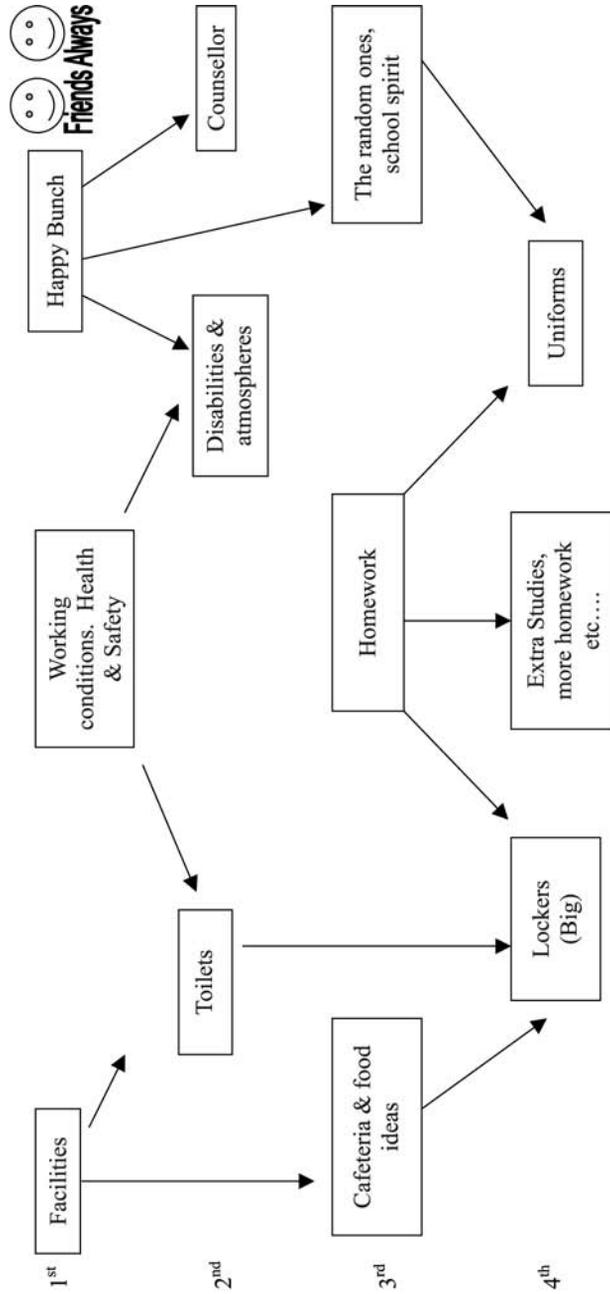


Figure 2.  
Schema school A,  
sub-group 2

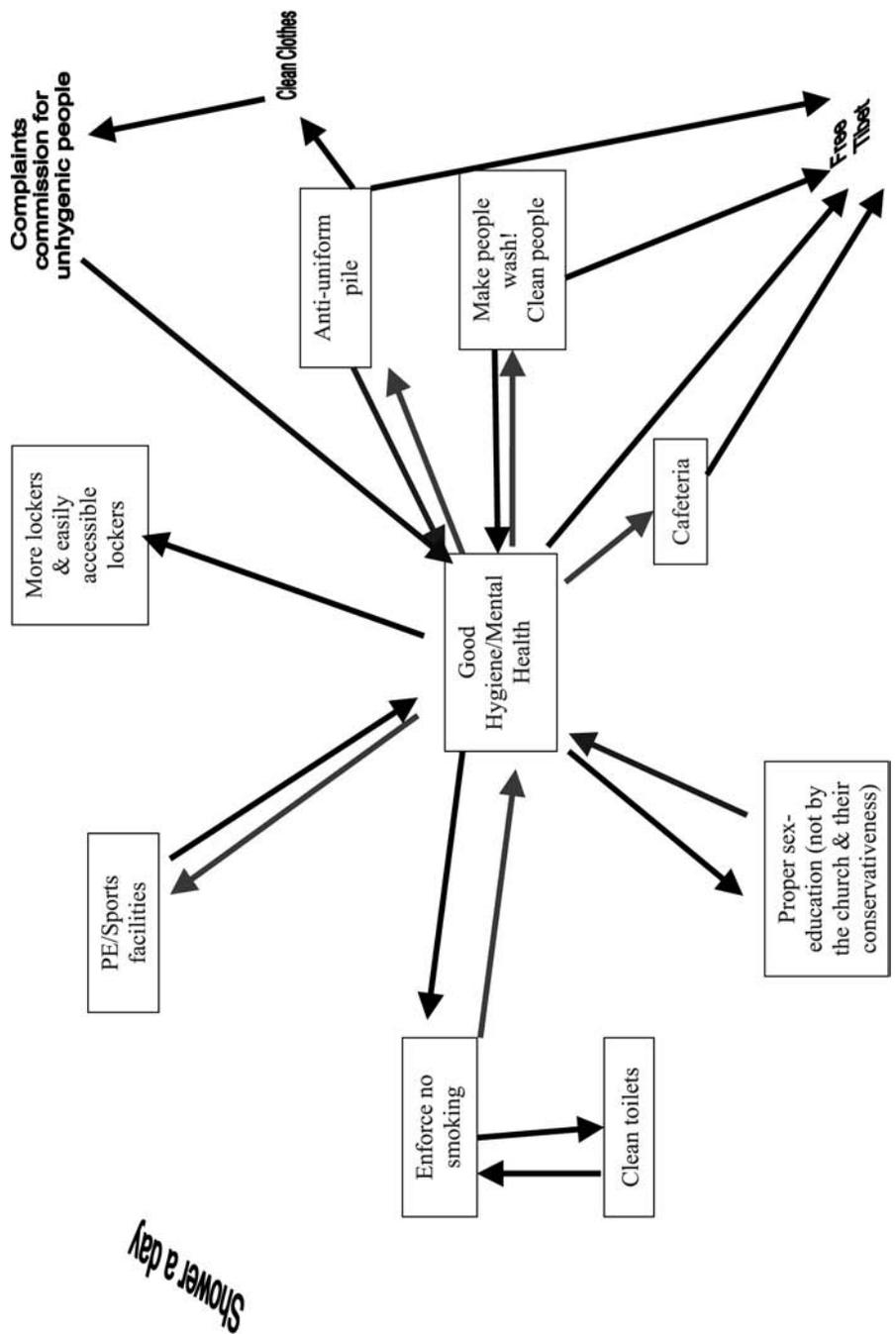
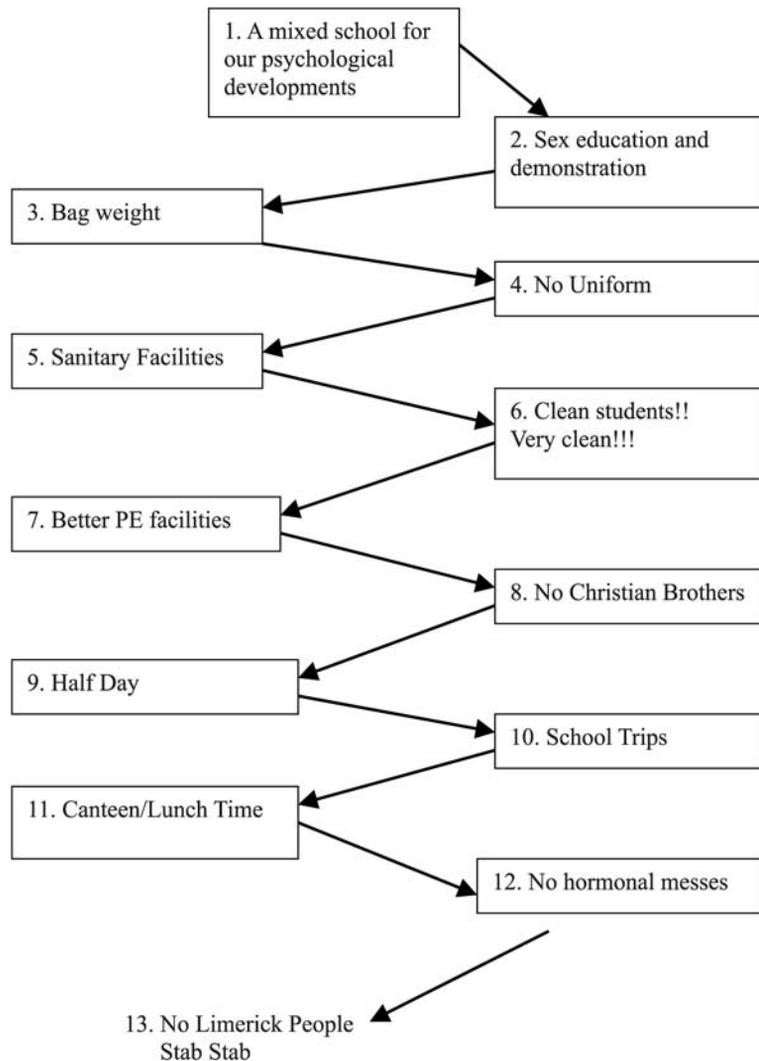


Figure 3. Schema school B, sub-group 1



**Figure 4.**  
Schema school B,  
sub-group 2

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central to the schema, one which was ranked “authority # 1” this leads into “respect” which in turn feeds into the outer circling categories, the outer arrows signifying continuity and movement of these categories. The second schema devised in the boy’s school is non-hierarchical (Figure 3), but does have a focal point, “good hygiene/mental health” to which all the other categories are linked by dual or single arrows. In the co-educational school (C), very clearly structured schemata were presented. In sub-group 1 (Figure 5) the structure is in three separate sections; each of which links what the students perceived to be related together. This block structure is also reflected

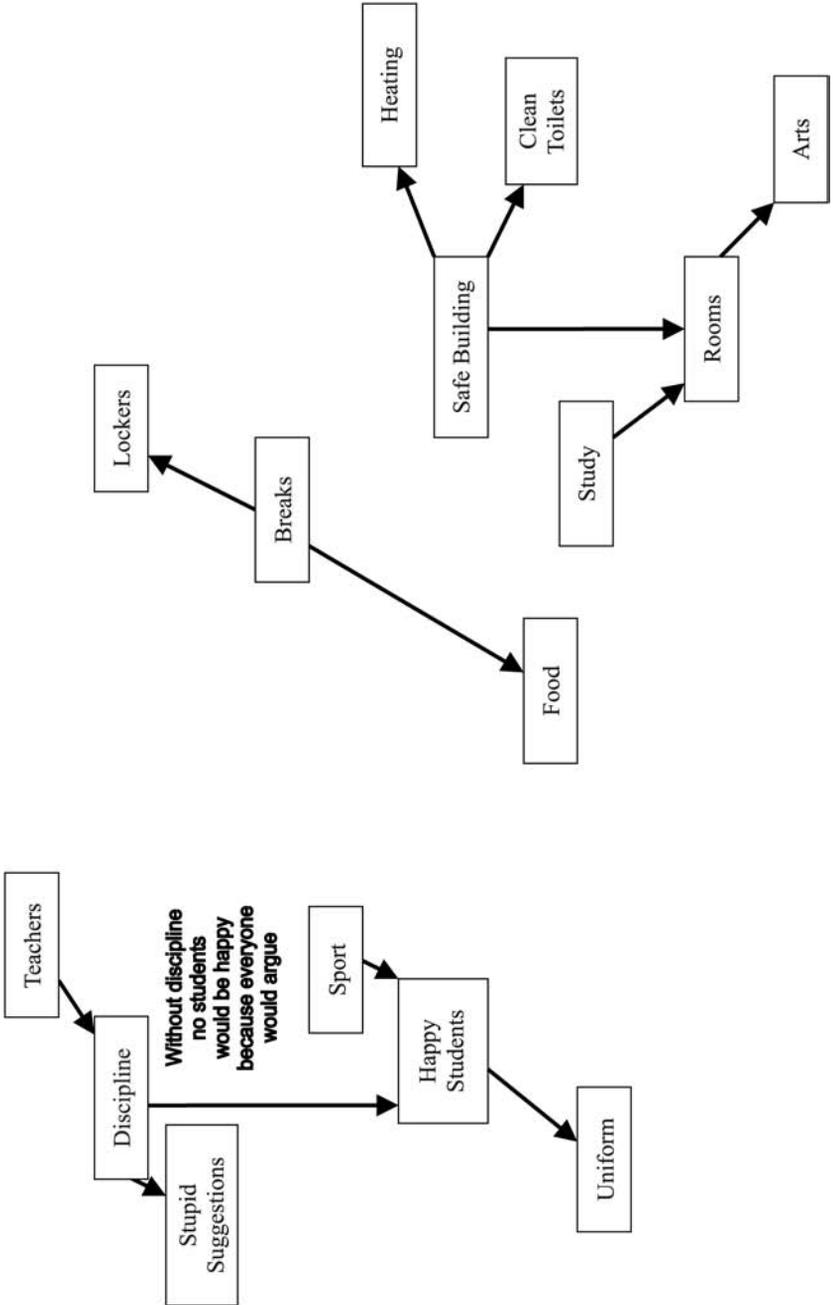


Figure 5. Schema school C, sub-group 1

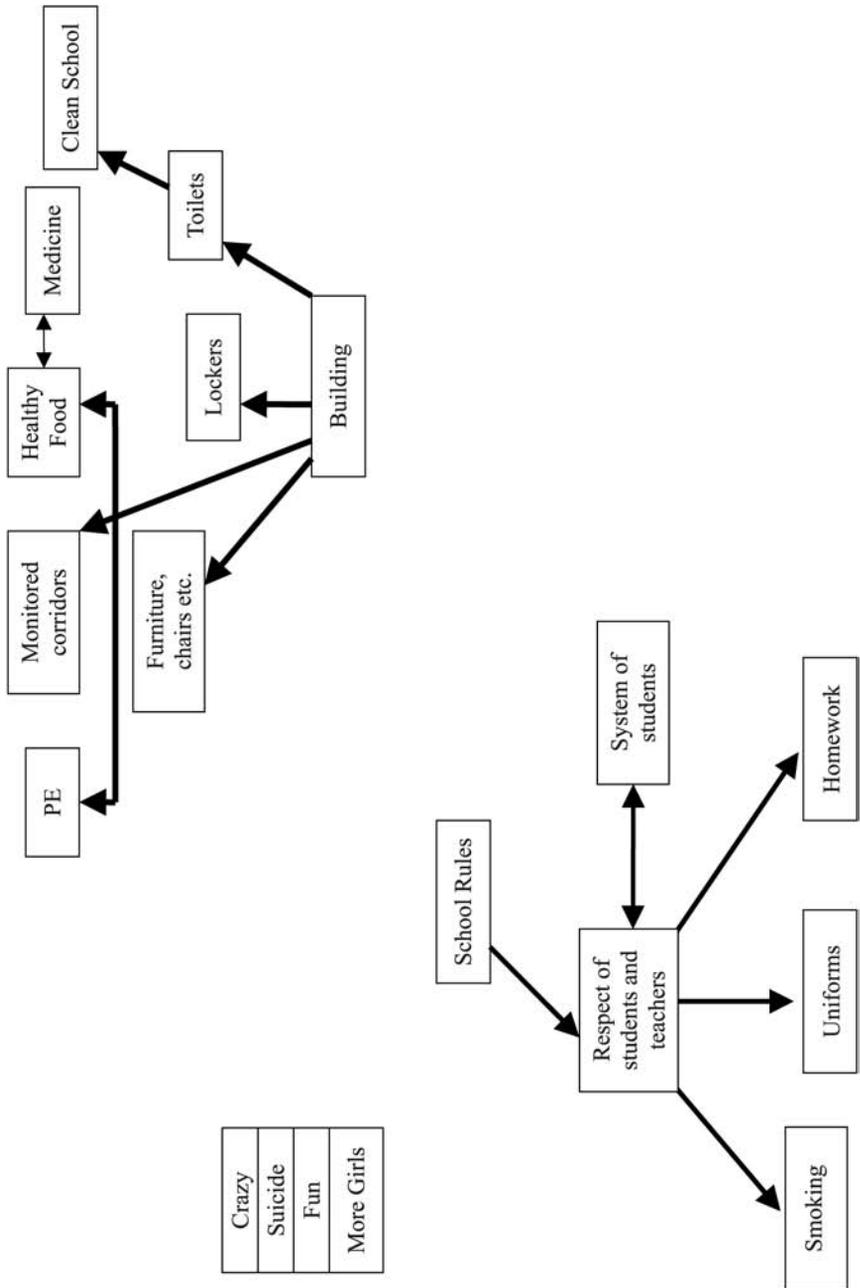


Figure 6.  
Schema school C,  
sub-group 2

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in the schema developed by sub-group 2 (Figure 6) where arrows link the related categories within two separate sections.

### Discussion

All of the developed schemata are unique, both in terms of content and structure, as they were developed from exclusive sets of individual responses and categories, by separate groups of students. Nevertheless, there is substantial overlap in schema content, with an emphasis on the tangible; physical attributes of the school, school organisation and factors that contribute to physical health. This can be interpreted within the context of Irish post-primary education; schools are not supported, or in general expected to provide food of any kind for students, and many school buildings are in need of repair, renovation or replacement. Similar concerns have been expressed during previous studies of school health promotion in Ireland (e.g. Nic Gabhainn and Kelleher, 1998; Nic Gabhainn *et al.*, 2000). The focus on the physical may also reflect the absence of a broader settings approach to health within these specific schools, which has also been previously identified (Nic Gabhainn and Kelleher, 2002). Nevertheless, the developed schemata reflect a broader understanding of the determinants of health and indicate a range of social and inter-personal factors that students highlight as relevant. These include the socio-emotional role of relationships with teachers and other students, and echo a body of findings that demonstrate the importance of relationships within the school for student health and wellbeing (Torsheim and Wold, 2001a, b). They also concur with previous Irish findings on primary (Nic Gabhainn and Kelleher, 2002) and post-primary (O'Higgins, 2002) students' concept of health, which focused on health as an achievable resource for living; engaging with other people and being active. The structures of the schema illustrate how students perceive these aspects of the school to be inter-related and confirm the degree of sophistication of these students' perspectives.

That the schemata themselves are influenced by the preceding stages and student characteristics must be considered. While the sub-groups in stage 3 were generally faithful to the categories developed during stage 2, the extent to which they considered the physical size of the categories, in terms of the number of response cards in the category is unknown, although fieldworkers did report that this was noted in most sub-groups. "Contamination" of schema structure could also be an issue, given that in each of the three schools, the two sub-groups were working in the same room, albeit with independent sets of categories. Stage of the school career and gender are also possible influencing factors. All participating students in this study were senior students, at the end of their fourth year of post-primary education. As such they will have experienced group work communication processes, would be familiar with school structures and processes and were more likely to know each other well. Previous attempts at employing this approach found that, at least when investigating a topic with which students are familiar, such as their own well-being, the group components of this process were equally feasible with younger, primary school age students (e.g. Nic Gabhainn and Sixsmith, 2006). However, it is possible that young participants are more likely to have difficulty with this text-based approach, especially when playing the "snap" game in a group setting. Substantially more individual responses were produced in the girls-only school, reflecting previously identified gender differences in

consultation processes (Edwards and Alldred, 1999; Stafford *et al.*, 2003). However, during data reduction in stage 2, the girls produced an equivalent number of categories as the students in other schools, with no substantial variation in category titles.

One of the objectives in this study was to develop indicators for a health promoting school and thus we need to question whether the schemata are appropriate for indicator development. It may be most straightforward to employ the categories as the indicators, with consideration of the individual response cards within the categories to help develop criteria for such indicators. This, however, does not negate the value of the schema, as they serve as a vehicle for conceptually linking the actions required for health promoting schools, and, equally importantly, as an aide to impressing on adult stakeholders the value of including students in the process. It is important to remember that students are not the only stakeholders in schools, and it is relevant to consider how these categories and schemata can contribute to a wider school level process of indicator development. It may be most coherent to adopt the process outlined here with all individual stakeholder groups and to subsequently facilitate an integration of developed schemata. Alternatively it would also be interesting to engage with representatives of all stakeholder groups together adopting a similar protocol.

The extent to which the schemata developed here could appropriately be applied to other schools, or indeed to other groups of students within the participating schools is essentially unknown. The extent of the similarity between schemata supports their generalisability, but much further exploration is required. Even if the schemata presented here are generalisable, there are advantages to engaging in the process as outlined above. Whether employed as a needs assessment or evaluation exercise, involving students in this way has the potential to increase the engagement of students and may increase the likelihood of student's involvement throughout the process of schools improving their health promoting status.

Observation and informal feedback mechanisms indicated that all three stages of the process appeared to be positive and engaging experiences for participants. However, students were clear that they wanted their views to be taken on board, particularly by school management. It may be that student participation draws their collective attention to the issue of health in school, the impact of school life on their health and thus raises their awareness and interest in these issues. We cannot claim any long-term impact of this expressed desire by students to participate in decision-making and school improvement, or to fully commit to the implementation process if changes were to be introduced but it would be appropriate, if resources allowed, to follow-up students or classes in a case-study fashion in order to investigate this possible outcome.

There are specific limitations of this approach to engaging with students. These include the necessity for literacy skills and the unknown extent of group influences on the outcomes. Fieldworkers must be prepared to allow students the freedom to say just what they want, refrain from directing them during the group-work process, and allow their final schema to be the final data representation. This can be a struggle for some researchers, particularly those who are already experienced classroom managers. It is also difficult to avoid the impetus to engage in further post-hoc "researcher-led" analysis of the responses, categories and schemata. While such analysis may be appropriate when investigating the appropriateness of the method, it is contradictory

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to the underlying epistemological assumptions. The exact question employed as the initial trigger to data generation is also crucial. The wording of the question employed here, although similar to that of MacGregor *et al.* (1998) is the product of a number of pilots with groups of students, emphasising the contextually dependent nature of the language used. The exact phrasing of the question may heavily influence student responses. Thus questions need to be relevant and understandable to the individual student group. Those interested in replicating this work or employing these protocols must pay due attention to the language in the initial question.

The methodology presented here was developed in the context of a research project, but the procedures outlined may also sit alongside participative approaches to health promotion, as the method is intended to be explicitly empowering. In an Irish context the process could easily be employed within either Social, Personal and Health Education or Civic, Social and Political Education, for example in gathering and organising ideas raised in the planning stages of work, an integral part of both of these curricula. Outside of the classroom, the process described may also be useful within the Student Representative Councils (SRC) now present in most Irish schools; it could be employed by SRC members with the student body for the purposes of planning, needs assessment or consultation. It is proposed that this approach complement rather than replace current participative practices and as with other methodologies, teachers and practitioners must be very clear as to the rationale and appropriateness of its use in the setting and context that they are working. As this method is intended to empower children, the less adults try and influence or control the process, the better. In common with other methods of participation, it is important that there is follow-through from teachers and school management, and so it would be relevant to assess in advance whether this approach really is coherent with other aspects of the school or youth setting.

The growing literature on children as researchers indicates that children are an underestimated and underused resource. Alderson (2000) suggests that children are more likely than adults to be interested in every phase of research pertaining to children. Their stage of the life-cycle means they are familiar with enquiring, accepting unexpected results, revising their ideas and assuming that their knowledge is incomplete and provisional; crucial skills for successful researchers. Nevertheless, it is necessary to debate whether there is any added value to this approach or whether it overcomes any of the limitations of other approaches to consulting with children (Coad and Lewis, 2004). Our experience is that the process is fun, with both fieldworkers and students giving very positive feedback on their involvement, but students do express concern that their views will be listened to. Given that the process is initiated and guided by adults, much will depend on how the schemata are subsequently employed. It is essential to allow the students as much freedom as possible at each stage, but the key to determining the extent to which this process facilitates advanced levels of participation will be whether the adult stakeholders engage with children in relation to subsequent decision-making and the planning and execution of health promoting actions (Hart, 1997; Shier, 2001; Kirby *et al.*, 2003). The degree to which this method facilitates the empowerment of students is similarly dependent on what happens next and deserves further investigation.

The methods presented here involve strategies that are congruent with the principles of health promotion and produce useable indicators of the health promoting school at school level. The process applied to obtain these indicators can be employed successfully and efficiently within the school setting, although the context and participant characteristics must always be considered. The developed schemata demonstrate both the level of engagement achieved and the sophistication of students' understanding of the factors that influence their health, and, their inter-relationships.

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**Further reading**

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