

THE CHALLENGES OF HEALTH EDUCATION: FINNISH STUDENTS' PERCEPTIONS OF HOW TO CHERISH HEALTH

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Abstract

Youngsters' health is widely studied from various points of view but a holistic approach to health has been minimal. The purpose of this research was to study general upper secondary education students' health knowledge and perceptions of health by analyzing their answers concerning the subject of health education in the general studies battery of tests in the Finnish matriculation examination. The sample of the research consisted of 611 essays that were the test answers in health education in 2007. The essays covered altogether eight questions about health education. 81 candidates for the spring 2007 matriculation examination and 60 candidates for the fall 2007 matriculation examination participated in this research; altogether 141 candidates. The research approach was phenomenological-hermeneutic. The data was analyzed through qualitative content analysis. According to the results, students recognized people's responsibility for their own health. They disapproved especially those who consciously neglect their health. According to the findings, it seemed evident that health education as a subject should be further developed so that it supports youngsters' health appreciation and ability to make health-promoting choices in life. This decade sets special challenges to health education in schools, and therefore, it is important to listen to the youth's opinions and perceptions of health in order to, for example, develop curriculum planning.

Key words: health, health education, matriculation examination, general upper secondary education.

Introduction

When people—even the youngest ones—are asked what they value in life on of the most important things is health. But how to cherish health, what are health threats, and how they prevent from getting ill? To what extent, is it possible to influence health with one's own action and what kind of activity is necessary? What do the young think about this?

Youngsters' health is widely studied from the point of view of prevention of illnesses both in Finland and internationally. The research has focused on youngsters' health habits, health attitudes, life styles, risk and problem behavior, and means of changing them (Birnbaum et al., 2003; Cargo et al., 2003; Carver et al., 2003; Chen et al., 2003; Cooper et al., 2003; Dalle Grave, 2003; Gosin et al., 2003; Hyry-Honka & Määttä, 2012; Hyry-Honka et al., 2012; Rimpelä et al., 2002). At the same time, health-related studies have concentrated on themes around one problem at a time, such as smoking (Carver et al., 2003), alcohol and drug abuse (Gitlow, 2006), violent behavior (Cooper et al., 2003), eating disorders (Dalle Grave, 2003), dating and sex (Määttä, 2010), stress (Chiesa & Serretti, 2009) and so on; while a holistic and positive approach to health has been minimal but called for (Ryff & Singer, 1998).

The foundation of youngsters' health appreciation is laid at school. Information, skills,

and values provided at school and at home form a strong basis for individuals' life styles and ways of nurturing their health (Rask, 2012). Health education and healthy life style can be taught within various school subjects. In Finland, health education became an established school subject in basic education, vocational education, and general upper secondary education in 2001 and in elementary education it was integrated in other subjects such as biology, geography, physics, and chemistry (The National Core Curriculum of Preschool Education, 2010). The general studies battery of tests of the Finnish Matriculation Examination¹ included the test in health education for the first time in 2007. Indeed, it was the third most popular among subjects (math and languages excluded) and 12 % of candidates took the test in health education (Matriculation Examination, 2007).

Obviously, Finnish youngsters are interested in health education. On the other hand, the latest research results seem worrying when it comes to youngsters' health and health appreciation (Abell et al., 2011). Various quantitative measurements are used for assessing youngsters' health in addition to school health care nurses' health inspections (Guyatt et al., 1996; Smith et al., 1995; Walker et al., 1987; Zindler-Wernet & Weiss, 1987). Thus, it seems worth asking what youngsters think about health appreciation and threats. In this research, the young got their voices heard through their writings about health education.

The purpose of this study was to analyze general upper secondary education students' health knowledge from their answers in the general studies battery of tests. Youngsters' health has been reflected from various perspectives both in nursing science and sociology, psychology, the science of education, and other human sciences. Among other things, health covers taking care of oneself, committing oneself to treatment, and health-related choices (Kickbusch, 1989). In addition, health has been considered as an expression of the individualistic way of living, inner strength, and ability to use strengths and feel good (Bech et al., 2003; Hyry-Honka & Määttä, 2012; Hyry-Honka et al., 2012). Health has been linked to the concept of empowerment (Falk-Rafael, 2001), life management, well-being and life course of a human being (Bech et al., 2003), and social capital (Morrow, 2004), cultural capital (Abel, 2008), and health literacy (Nutbeam, 2008).

Problem of Research

In the course of time, the concept of health has developed, diversified, and expanded. Nowadays, health is seen as a positive and comprehensive factor in course of life and culture and which is connected to people's resources. Health is no longer considered a static state but a changing and dynamic learning or development process by its nature. Genotype, living conditions, learned and adopted information, skills, and attitudes affect health. (Albert & Davia, 2011.) What kind of experiences young people get from school and from health education that helps them promote their health?

Research Focus: Health Education

Health education seems to vary by country and, in addition, both the levels and practices are different (Rask, 2012). The United States, Australia, and Canada have no nationwide curricula but state-specific curricula (Vitikka & Hurmerinta, 2011). However, several programs have been focused on promoting citizens' health literacy in the United States (Brey et al., 2007), and for example, special health education sections are recommended in curricula (Parker & Kindig, 2006). In Canada, an extensive panel of experts in health literacy produced a program to be included at various levels of education (Rootman & Gordon-El-Bihbety, 2008). Giant steps have been taken in China in the form of health campaigns and the promotion of national health (Wang, 2000). In Bangladesh, healthy life style is taught through poems, drawings, stories, and songs (Jahan, 2000).

In Finland, health education is quite advanced and unique compared to other countries.

Other countries where local education is guided by national core curricula are England, Scotland, New Zealand, Singapore, South-Africa, and Sweden (Vitikka & Hurmerinta, 2011). Still, the emphases and the ways the content is integrated in other subjects seem to vary between these countries.

In Finland, health education is divided into the actual health education and health promotion, the development of social skills and general life-management skills, and safety education (Government Bill 142/2000; Peltonen, 2005; Rask, 2012). The purpose of health education is to get the young adopt healthy life style. The instruction is expected to further pupils' sensitivity toward health. It means health appreciation and respect for the cherishing of health and people with different health conditions. Therefore, it is also to promote tolerance. Adaptation skills, ability to bounce back from losses and the ability to renounce are important themes in health education. Teaching involves conversations about values, appreciations, and ideals (Kannas, 2005a).

The Subject of Health Education

The importance of the subject of health education is justified in various ways. Health literacy is a part of all-round education. A healthy pupil is alert. Positive learning outcomes increase his or her self-appreciation. Health education supports children's and youngsters' growth, sexual health, changes in emotional life, and maturing. Promoting health literacy can prevent national diseases in adulthood. Therefore, health education can have significant economic influence in the form of citizens' ability to work and function. Taking studies in health education may also help getting into vocational health care education. Moreover, health education provides information about topical health risks and their avoidance (Kannas, 2005b).

According to annual School Health Surveys, most of the Finnish students find health education interesting (Aira et al., 2008). For example, in 2009 School Health Survey, 75% of general upper secondary education students reported that health education had increased their preparedness to take care of health.

In the curriculum for general upper secondary education, health education is defined in the following manner:

Health education is a school subject based on multidisciplinary knowledge and its purpose is to promote skills that support health, well-being, and safety. This knowledge is manifested as intellectual, social, functional, and ethical abilities and skills of emotional regulation and information acquisition. Health literacy includes the readiness to be responsible for the promotion of one's own and others' health. In health education of general upper secondary education, health and maladies and health promotion and illness prevention and treatment are considered from the points of view of the individual, family, community, and society. (LOPS, 2003, p. 210.)

Graduating from general upper secondary education is highly appreciated in Finland and it has been even described a national institution (Jauhiainen et al., 2001; Lahtinen, 2008; Lindström, 1998). Today, more than half of the age group graduates from general upper secondary education; that is approximately 35,000 graduates per year (Kaarninen & Kaarninen, 2002). In 2007, a little bit more than 33,000 students graduated and 19,000 of them were women (Matriculation Examination, 2007).

In the spring 2007, the first test in health education as a part of the general studies battery of tests was taken by 4,490 candidates. In the fall 2007, the number was 3,514. The distribution of scores in health education test of 2007 showed that women did better than men. About 6 % of women got "laudatur [laudatory]" which is the highest grade in the Matriculation Examination. In spring, only 2 % and in fall, 1 % of men reached that score. Likewise, more men got "improbatur [F, fail]" both in spring and in fall than women. (Matriculation Examination, 2007). Teachers were content with the first test of health education. In their opinion, the test covered the goals and contents of the core curriculum. (Kannas, 2005b; Peltonen & Aira, 2009.)

The test measures candidates' ability to define relevant concepts rigorously and correctly. Especially the answers in the health education test, candidates' maturity is manifested through their ability to write their knowledge, skills, understanding, and contemplation in a structured, logical, analytic, and insightfully.

Methodology of Research

General Background of Research

The purpose of this research was to study general upper secondary education students' health knowledge and health appreciation by analyzing their answers concerning the subject of health education in the general studies battery of tests in the Finnish matriculation examination:

1. How do students describe the essence of health?
2. What factors promote health according to students' answers in the subject of health education in the general studies battery of tests?
3. What factors endanger health according to students' answers in the subject of health education in the general studies battery of tests?

Sample of Research

The research data consisted of 611 essays that were the test answers in health education—486 essays from the examination held in spring 2007 and 125 essays from the examination held in fall 2007. The essays covered altogether eight questions about health education. 81 candidates for the spring 2007 matriculation examination and 60 candidates for the fall 2007 matriculation examination participated in this research; altogether 141 candidates. 37 of them were men and 104 were women. The participants were aged between 18 and 20 years.

Instrument and Procedures

The research approach was phenomenological-hermeneutic. It is a part of the hermeneutic tradition where a human being is both the researcher and the research participant and the living world is the research target (Lavery, 2003; Tuomi & Sarajärvi 2006, 33). It also involves an understanding and interpretative approach (Alvesson & Sköldberg, 1994; Gadamer, 2009).

Data Analysis

The data was analyzed through qualitative content analysis. Deduction was employed when drawing conclusions (Tuomi & Sarajärvi, 2006). During the analysis, scattered data were put together and condensed carefully without losing any essential information (Bogdan et al., 2006). The analysis leaned on the levels of health literacy and Bloom's taxonomy as well as on the learning objectives of the national core curriculum for health education in general upper secondary education.

According to Savolainen (1991), authentic data excerpts prop the interpretations and function as examples of the data. In addition, they vivify the report or help to compact the message. Candidates' answers in Matriculation Examination represent natural research data because they exist regardless of the research. Alasuutari (2001) considers these data ideal because the research participant is not influenced by the researcher or the research setting. In the data excerpts included in this article, the letter "F" refers to a female candidate and the letter "M" refers to a male candidate. The numbers illustrate the candidates' serial number in the data: numbers 1–81 refer to spring candidates and 82–141 fall candidates.

Results of Research

The Essence of Health

Based on the results, students defined health according to the WHO model: health is a holistic state of physical, mental, and social well-being (F19, F42, M17, F2). As analogies of health, students seemed to use the term “well-being” (F15 M3p, F21, F30), “future and development” (M12), “feeling good in general” (M5) and “ability to function” (F45, M21, F34). At all levels of health knowledge, students wrote about well-being when they were talking about health. Similarly, one’s physical shape is associated with health: “students are able to take care of their shape perhaps the best, if they just want to” (F25).

In their essays, students wrote about health in an appreciative tone and emphasized voluntary actions that promote health. “Our own health is, however, one of the foundations of life and it should be cherished” (M13). The same student assured of the significance of health in his other essay as well: “A human being’s health is one of the basic things in life. Health is personal but still it is connected to many issues, such as economic conditions, leisure, and environment.”

Students regarded health as a future issue too that one should contemplate already when one. “Although cheap food would seem tempting, it is also important to invest in your health and future by eating in a healthy and balanced way” (F18). Some of the students had also noticed differences between women’s and men’s health: “It is more important to look good for women than for men and therefore they pay more attention to health” (F29). “Health is a sum of many things”, summed up one woman candidate (F10).

Health-Promoting Factors

Students wrote that exercising, healthy nutrition and sleep promote health. These three things lay the foundation of a good health. According to students’ essays, taking care of health meant conscious actions: “Our own bodies are our own sites and we should take care of it and maintain it regularly” (M13). This was considered an ethical question as well: “If human beings appreciated their health, they would make health-promoting choices and would not endanger it consciously” (F13).

Physical exercise

“Citizens should wake up and start exercising to promote their health.” (F35) The above-mentioned student’s expression is a metaphor as she used a stirring verb “wake up”. The concept of health exercising and how it differed from other types of exercising were also discussed in the essays. Students asked whether some sport was less healthy than some other. One student defined health exercising as follows:

“The purpose of health exercising is literally to promote health. Most of the present national diseases could be prevented by sufficient exercising and the right kind of diets. Furthermore, the pleasure of exercising is important in health exercising and the good feeling that follows exercising refreshes and keeps you going” (F76).

Among the means of promoting physical health, several students mentioned the importance of exercising in weight watching. “Exercising is one of the most important means of controlling your weight” (M37) and a female student added that “most of the national diseases could be prevented by exercising” (F14).

Students described the positive influence that physical exercising has also on mental health: “exercising refreshes you mind and make people happy” (F10), “it has been noted that exercising improves coping, mental health, and health, and makes people more efficient and lively” (F8). Students criticized the modern busy life style but had noted that exercising can

help: “Physical exercising gives time for thinking and relieves taut nerves. One could say that exercising relaxes” (M35).

Students had noted that exercising promotes social health as well: “Exercising is fun whether you did it in a team or alone” (M37) wrote one male student whereas one female student considered exercising a social event where “you catch up with your friends without losing your breath” (F79).

Exercising citizens benefit the whole society: “people are, however, the basis of a society and we are much more useful if we are healthy” (M6). Citizens should exercise voluntarily and one way is to “make exercising a trend that everyone wants to follow” (F21), stated one student. Another means was to use the widely-discussed exercising prescription: “Doctors often have influence on the patient. More exercising is often a better cure than diet medications” (F45). Students had also noted that it is for the whole society if exercising covers the whole life span. Their answers also included notions about the structural change in the society: “The starting point of the problem is that although the interest in sportive hobbies is increased, daily, functional exercise has diminished” (F27).

Nutrition

Students were aware of the connection between nutrition and health. “Following the recommendations for a diet promotes health and well-being”, stated one student (M3). In one of the assignments of the test, students were asked to illustrate a healthy diet with the food circle, pyramid or plate model. Students remembered the plate model quite well because it was presented in their essays correctly almost every time. Several students mentioned some of the models without giving any reasons: “People should follow the food circle in order to stay healthy and exercise, too” (M7).

Students wrote about their healthy nutrition in a quite practical manner: “Healthy nutrition does not have to be bad: berries and fruits can replace chocolate and other treats that contain saturated fat. Whole milk can be changed into skimmed milk and bologna sausage into cooked ham” (F32).

Some students evaluated food commercials and found flaws. “All green and healthy are missing and there is no fiber-rich food at all. A diet is a personal choice but, by following certain recommendations, one can keep a right direction and avoid gaining weight and subsequent diseases” (F55). The role of food commercials in changing one’s diets was regarded as possible: “Certainly, you can find commercials of the so-called functional foods (danone activia, becel pro active, etc.) and especially today, when the awareness of health-promoting factors is increased they have also become more popular” (F59).

Sleep

The importance of sleep and rest was highlighted in students’ essays. “Although the society is constantly pulsating, we need sleep—to pulsate” (F49). Students realized how comprehensively sleep affects health. “In all, sleep improves both physical and mental health which also affects social health. Without good and regular sleep, a human being’s ability to function gets worse” (F42).

Students mentioned how rest is required for recharging after physical exercise. “You recharge while sleeping. Namely, you can ruin even a good performance with too short sleep” (F28). Sleep also was known to affect weight watching positively: “Sleeping takes time that some stout and fleshy people would spend eating. Therefore, if you want to avoid for example surfeit, you should sleep” (F25). The student’s arguments are incorrect but the point is right.

According to students’ essays, sleep promotes mental health. One female student stated that “everything steadies in the mind, body, and brains while sleeping” (F5) and that “sleep alleviates stress, affects the body extrinsically and intrinsically and creates a general good feel-

ing" (F7). One student crystallized the benefits of good sleep: "After a night slept well you feel rested: the body is relaxed and you are ready for the new day, your mind is clear and open" (F10). A male student also pointed out that sleep is important to school-age children because "sleep improves learning ability and concentration" (M6).

Sleep also was considered promoting social health. It was manifested in comments such as "when feeling lively, you could conquer the whole world" (F18). Road accidents caused by tiredness were mentioned in many essays. Sleep and rest were also seen as a part of good health care. "Little by little, sleep is understood as what it is: a part of healthy and health-promoting life style. Together with a right kind of nutrition, abstinence of smoking, moderate alcohol consumption, and sufficient exercising, sleep forms an entity that brings the best resources for physical and mental harmony and perceived happiness" (F14).

Health appeared a matter of will in many essays. One's health depends on one's own choices. "One thing we can affect is our health behavior. It means those conscious choices that we make when eating food (e.g. whole or skimmed milk), going to work or school (by car or bike), and values that we choose (smoking or non-smoking, getting drunk or just one glass)" (F57). Healthy life is followed by positivity and good feeling. This was manifested in students' attitudes.

Health-Endangering Factors

Lack of physical exercising, fast food and lack of sleep were mentioned repeatedly in students' essays as health-threatening factors. In addition, busyness, use of stimulants, and disregard were also considered endangering. Furthermore, the students mentioned the accumulation of these factors, especially among the young. "Today, youngsters sit by their computers a lot, drink much alcohol, and smoke and eat plenty of fast food that contains more than enough calories, fat, and salt. Youngsters' neck and back ailments have increased during the past decades a lot which also appears as headaches. Often, the reason is hours' sitting at the computer and lack of exercising" (F30).

Students downright lashed out those who neglect their health: "Why cannot we learn to live in a healthy way? Have our brains been numbed by fat?" (F81). The young also criticized their own eating habits: "Youngsters' eating habits are in a bad way because we have snacks and lunched in fast food restaurants. The young have proper and balanced food only at school because people do not invest in home cooked meals any longer but use plenty of ready meals when preparing meals" (F26).

Insufficient Sleep

Lack of sleep was considered endangering health. According to students, lack of sleep could cause "depression and tensed nerves" (F11), "stress, trouble in human relationships" (N11), and "irritation and snapping" (F18). One student said that "especially the young undermine the importance of sleep" (F7). The means of staying alert and wake can also endanger one's health: "It is worrying that many people try to compensate liveliness that follows a good sleep with various drinks and substances such as coffee and energy drinks. That does only a disservice giving a momentary refreshments but your body cannot really rest then!" (M10).

One of the students wrote analytically that "tiredness affects also daily performances both at home and at work and constant failures lead to lower self-esteem and depression" (F38). At times, students wrote quite harshly and judgmentally: "They keep repeating the mantra 'You have time to sleep when dead' and work long hours hoping for promotions and trips to the south. Before long, your body 'resigns' or your body snaps. Taking you systems to the extremes together with today's stressful work environment makes a combination that is the death of many modern people" (F55).

According to the essays, stimulants, such as alcohol and nicotine, endanger health. A student perceived the future dark because “women smoke much more than before so you cannot know what kind of ‘lung cancer epidemic’ they will confront after a few years” (F52). The students were aware of the reason for women’s increased use of stimulants: “Equality is certainly a big reason because women want to do and act like men, in the name of equality” (F34). In addition, students were concerned about youngsters’ increasing use of stimulants. Increase in the consumption of alcohol, cigarettes, and other drugs were regarded as endangering children’s and youngsters’ health significantly. Students did not express much sympathy: “If you smoke and get cancer, you should take the responsibility and cover your treatment costs” (F39).

Students thought that disregard was a health threat. “Most Finns are not interested enough to stay healthy. Many of them have the chance but they do not use it. For example, they bemoan being overweight but do not do anything about it” (F58). In addition, students had noticed that people take care of themselves in different ways: “Some people pay attention to their health all the time while other live without giving much thought to their health” (F25). It seemed that student thought that this was because some people do not respect themselves and their health. “The way you exercise directly correlates to the fact how much you appreciate yourself and your health” (F48).

Students described people who neglect their health in colorful utterances and scolded them for being indifferent. “You cannot make someone live in a healthy manner all of a sudden. If you are not interested in your health, why should someone else be interested in it?” (F53).

Discussion

In all, health education as a subject should be further developed so that it supports youngsters’ health knowledge and ability to make health-promoting choices in life. It is crucial that youngsters are aware of health threats.

Indeed, today’s world set a new spectrum of threats to people’s health. Insecurity and stress, burnout and lassitude caused by rapidly changing modern working life and on the other hand, increasing unemployment and other social problems pose demanding challenges for people’s well-being and health. Furthermore, children have their share of problems too: depression, exclusion, psycho-social problems, mental problems, and especially the increase in learning difficulties are worrying (see Bhatia & Bhatia, 2007; Williams et al., 2007).

In this study, youngsters’ test answers were rather similar to previous studies and show that they had adopted relatively well the objectives of health education. In the national core curriculum for general upper secondary education (2003) health is defined as physical, mental, and social ability to function. In medicine, health is defined as one’s condition. In social sciences, health is considered well-being and the realization of equality. From the point of view of sociology, health helps coping in various roles of everyday life. Hermeneutic philosophy regards health as slowly-developing understanding where the body and mind represent dimensions of human experience. Furthermore, health appears differently in various phases of life.

A new kind of approach to study health seems justified. Positive psychology presents one starting point for the kind of study on health that concentrates on human well-being (e.g. Aspinwall & Tedeschi, 2010). For example, Hyry-Honka (2008; see also Hyry-Honka & Määttä, 2012; Hyry-Honka et al., 2012) defined the concept of health capital. It forms a part of human or personal capital to the extent that people’s knowledge, skills, and learning are connected to health. Health capital is a part of social capital when human relationships and nets support people’s health, security and well-being. Health capital is a part of cultural capital when it comes to respecting health, health ideologies, and health-related habits and customs. In the field of economic capital, health capital refers to the resources, machinery, tools, and facilities available for promoting people’s mental and physical shape and health.

The concept of health capital is new and is mentioned only in very few articles and text books. Shim (2010) uses the concept of “cultural health capital” and connects it with health care. Kunnari (2011) mentions the concept or “the experience-based capital of physical exercise” when analyzing the connection between physical exercise with especially the area of health and self-development. What seems positive here it that capital is commonly considered something worth acquiring and investing in. Therefore, using the concept of health capital can, for its part, increase the appreciation of health. (Hyry-Honka, 2008.)

The concept could be meaningful also for the development of the subject of health education. The young spend a remarkable part of their time and everyday life at school. Therefore, youngsters' experiences of school and activities that strengthen youngsters' health resources at the school community contribute to their overall development and health. In addition to health education, many other subjects at school and the school for its outer settings transmit the health-related knowledge, skills, attitudes, and values (Tountas & Dimitrakaki, 2006). At its best, school can increase students' health capital. It will reflect in youngsters' ability to live as citizens who cherish and promote their health (Morgan & Haglund, 2009).

Children's and youngsters' well-being is mainly the responsibility of parents, other immediate caregivers, and teachers. It has been noted that childhood may be the optimal time to promote healthy attitudes, behavior, adjustment, and prevention of problems by, for example, recognizing the children's strengths and building on those strengths (Brown Kirschman et al., 2009; see also Määttä & Uusiautti, 2011). Consequently, it is also worth noticing the latest discussion about salutogenesis which is an approach focusing on factors that support human health and well-being, rather than on factors that cause disease. Actually, Lindstöm and Eriksson (2011) have introduced the salutogenic framework in educational science by starting a discussion about the content of health education and health knowledge. They expand the idea toward healthy learning but simultaneously point out that more research is needed and educational practices must be changed and developed.

To be able to strengthen youngsters' resources and health capital with various actions, we have to know what factors are relevant especially from the point of view of the young. Their health resources and health capital remain potential until we have information about what they are and how much the young have them: the purpose of this study was to contribute to this discussion as well.

Conclusions

According to the results, students recognized people's responsibility for their own health. They disapproved especially those who consciously neglect their health. Some of the students reminded that also environment influences the quality of people's health.

Students named lack of sleep and unhealthy nutrition, especially fast food, factors that endanger health. They criticized commercials that entice people buy more than they actually need. Students' answers illustrated problems of developed countries. Furthermore, they were worried about youngsters' life style that includes unhealthy habits. Many of the students criticized lack of sleep that causes trouble youngsters' overall health. In addition, students quite openly reproached for the use of stimulants.

In this study, students' perceptions of the essence of health and health promotion were studied by analyzing quite special data. Student had answered the test in the subject of health education as a part of the general studies battery of tests in the Finnish matriculation examination. Therefore, they knew that their answers would be evaluated. It is worth asking whether their answers illustrate their genuine thoughts or whether they have molded their answers to get as good scores as possible. Certainly, the latter is true but it does not necessarily mean that their writings did not represent their own thoughts. As the data excerpts showed, students' writings were rather peremptory which is typical of that age. Thus, it seemed reasonable to assume that at least to some extent, their essays demonstrate their actual health knowledge.

Note

1 The Matriculation Examination is held biannually, in spring and in autumn, in all Finnish upper secondary schools, at the same time. The purpose of the examination is to discover whether pupils have assimilated the knowledge and skills required by the curriculum for the upper secondary school and whether they have reached an adequate level of maturity in line with that school's goals. Passing the Matriculation Examination entitles the candidate to continue his or her studies at university. The examination is arranged in upper secondary schools (<http://www.ylioppilastutkinto.fi/en/>).

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