

# School Canteen Thesis Introduction

## **The Healthy School Canteen Programme: A Promising Intervention to Make the School Food Environment Healthier**

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### **Introduction**

With 14% of young people in The Netherlands being overweight, the prevalence of overweight continues to grow, and many teenagers have an unhealthy food pattern containing too much saturated fats, sugars, and a lack of dietary fibre. The fact that children spend many hours at school each day, including lunchtime, causes the school environment to be an important out of home setting where children consume at least one main meal a day. Almost 90% of all secondary schools in The Netherlands have a school cafeteria and/or soft drink vending machines, and 80% have vending machines selling snacks and candy bars. With one in three schools selling pizza and one in five selling deep-fried products, almost half of all schools selling candy bars and a lack of fresh fruit in 57% of the schools [3], there is still a lot to improve when it comes to offering healthy foods in the school cafeteria. In this paper, we will first elaborate on why it is important to offer healthy food in school cafeterias and then introduce the Healthy School Canteen programme, an intervention that is aimed at making the school food environment healthier. In the remainder of this paper, we will discuss a descriptive study that was conducted to assess perceptions and opinions of parties that (have) participated in the programme.

The idea that environmental factors can be important in shaping human behaviour is not new. In the 1930s, Lewin already emphasizes in his field theory that both the person and the environment need to be taken into consideration when studying human behavior. Lewin, considered being the founding father of social psychology, conventionalised human behaviour as a function of both the person and the environment. This idea became known as Lewin's equation:  $B = f(P, E)$ . From this heuristic, it follows that behaviour is the result of an interplay of one's personal characteristics and the situation (that contains both physical and social elements) in which the person operates. This perspective provides a useful starting point from which to consider eating behaviour. Specifically, it could help to explain that good and strong intentions to eat healthily (person factors) are most of the time not enough to prevent people from making unhealthy food choices. Rather, temptations that lurk in one's direct environment such as the smell of hamburgers or seeing friends eating candy bars can be very powerful in shaping people's actual eating behaviour.

Although Lewin's equation was quite revolutionary in his days and sparked some debate among fellow scientists, his conceptualization is widely acknowledged nowadays. Also, in the domain of eating behaviour, there is ample evidence now that environmental cues can influence people's eating decisions, both consciously and unconsciously. For example, research has demonstrated that the way food is presented, portioned, and packaged in one's direct environment can affect the amount of food that one consumes. Specifically, larger serving portions and packages usually allure people to consume

more food, which in turn leads to greater energy intake. In addition, the accessibility and presentation of foods can influence people's food choices in such a way that the more accessible or easy to reach certain types of food are, the more they are being consumed.

Interestingly, the impact of the environment on people's food choices and eating behaviour is dependent on the way in which people make their food decisions. Specifically, decision-making and choice behaviour usually results from one of two distinct cognitive processes: reflective or impulsive processes. When decision-making is powered by the reflective system, people think carefully and rationally and they usually act upon their intentions. On the other hand, when people operate through the impulsive system, they act more automatically and spontaneously and are usually led by impulses. It is under these circumstances that environmental cues can strongly affect people's decisions and behaviour. When we apply these insights to the current topic of eating behaviour, it is to be expected that the environment strongly influences such behaviour when people make food choices via the impulsive system (as opposed to the reflective system). Research on habits and information processing has demonstrated that when behaviour has become habitual and when people are not motivated or cognitively involved enough (or are too distracted) to engage in effortful reasoning and deliberation, their decision making will likely be powered by the impulsive system. More specifically, this implies that when people have well-developed eating habits and is not very much involved in their food choices (and as a result do not invest much time and effort in thinking about their choices), the environment is likely to determine their eating behaviour to a large extent.

A recent study indicates that most students do not consider their eating patterns important and making healthy food choices is not a top-of-mind issue for them. Also, meals and foods are consumed during breaks, which are for most students social events in which they communicate and hang out with each other. These two facts imply that students, when they are at school deciding what to eat for lunch, will most probably not be motivated enough or too distracted to engage in deliberate decision making about their eating behaviour. Therefore, it is very likely that most students' choices about what to eat are largely based on decision making through the impulsive system. As a result, environmental cues, such as the mere presence of unhealthy food items, portion and packaging sizes, and tempting smells or displays of unhealthy food, will most probably have an impact on students' eating behaviour. In line with this, students themselves also indicate that they are influenced by the presence of unhealthy food in the school cafeteria. More specifically, they admit to be tempted when they see or smell palatable and unhealthy food. For this reason, many Dutch students indicate that in their opinion schools should only sell healthy products. Still, the majority of school cafeterias offer a large amount of unhealthy food products, and the school environment contributes in this way to the development of unhealthy eating patterns in young people.

At the same time, school cafeterias offer great potential to improve students' eating behaviour. When taken into consideration that most students tend to engage in impulsive decision making, when it comes to their food, this implies that environmental cues can also "nudge" them in the direction of more healthy choices. When cafeteria offerings would be predominantly healthy and healthy food would be made more attractive (e.g., appealing presentation, putting it on display), it is to be expected that this would increase healthy choices. And indeed, a study by TNO has demonstrated that this can be a fruitful

and effective means of encouraging healthy eating behaviour in students: changing the offering of vending machines into low-calorie candy, snacks, and soft drinks, resulted in students choosing these healthy products more often. As a result, they had a lower calorie intake than students of schools with vending machines in which products with a lot of sugar and fat prevailed.

Another reason why targeting students offers great potential to improve healthy eating habits is that eating habits that are formed early in life may persist into adulthood and that, once an unhealthy habit has been established it is difficult to change. Therefore, promoting and establishing healthy habits in young people is probably more effective and fruitful than trying to change unhealthy habits later in life. In addition, schools are increasingly indicated as key settings for interventions related to healthy eating. Health promotion in schools is worth the effort, because it can contribute to healthier behaviour in pupils, higher academic achievements, and a reduction in school drop-out levels. At the same time, the school setting is an important context for health promotion because it reaches a large proportion of the population for many years. It also offers a safe environment to practice new skills [20]. These skills have an effect on the possibility of young people to protect themselves against health risks and can positively affect their lifestyle into adulthood. In sum, interventions aimed at changing students' eating behaviour in the school setting have a lot of potential.

Given the influence the environment can exert on students' food choices, it is crucial to create a healthy food environment in schools that facilitates students to choose healthy food products. In this way, students are enabled to develop healthy eating habits from which they can benefit the rest of their lives. With this particular aim the Healthy School Canteen programme was developed. The Healthy School Canteen programme of The Netherlands Nutrition Centre is an environmental intervention designed to create a healthy food environment and promote healthy food choices in secondary schools and schools for vocational training in The Netherlands. This intervention entails a multicomponent strategy involving all parties: students, teachers, parents, school boards, canteen employees, Municipal Health Services, and caterers.

The programme consists of a four-step roadmap for school working groups, consisting of (1) an Inventory (what is the current state of affairs regarding cafeteria offerings, curriculum and policy?), (2) an Action Plan (setting goals and corresponding actions), (3) an Implementation Phase (implementing the action plan), and (4) an Evaluation (what has been achieved?). While completing these four steps, the school is guided towards a healthy school canteen in their own tempo. As health promoting interventions are more effective when they are structurally implemented in schools and the set up is comprehensive, the Healthy School Canteen programme not only motivates schools to change the offerings in the school cafeteria but also encourages them to embed knowledge of healthy nutrition in the curriculum and to develop healthy school food policies. Municipal Health Services play an important role in guiding schools through the process of change. As we have learned from experience, not every Municipal Health Service has enough time and manpower to support all schools in need of support in their region. To be able to support the schools in need, an important additional component of The Healthy School Canteen programme was created: the "Canteen Brigade." This brigade consists of dieticians employed by The Netherlands Nutrition Centre, who give tailored advice to schools and, if necessary, visit schools to provide tailored advice and support on site.

Since the pilot study in 2002, almost one third of all secondary schools in The Netherlands have worked with the programme. In 2006-2007, 11% of all secondary schools participated; in 2010-2011, 29% indicated to have participated in the programme in the last four years, which is a substantial increase. To motivate schools to enroll in the programme, a Healthy School Canteen Stimulation Award competition has been organized biannually since 2006. This competition challenges schools to submit an action plan that describes the steps they will take to create a healthier food offering. After 6 months, a report must be handed in, in which the achieved goals are described. The school that has accomplished the most structural changes will win the award.

In 2010, a descriptive study among users of the programme was carried out by an independent research agency to survey the perceptions, experiences, and opinions of school directors, parents, students, and health professionals with the programme. This study was undertaken to gain more insight on perceptions of users of the programme and to define factors that could help to improve the programme. In this descriptive study, the following issues were addressed: (1) perceptions of the school's cafeteria offerings, (2) the way in which the school's cafeteria was managed, (3) the role of the Municipal Health Service, (4) continuation of the programme, (5) additional value of the Stimulation Award competition, (6) parents' involvement in the cafeteria's offering, and (7) possible factors that stimulate nonparticipating schools to enroll in the programme. (The Canteen Brigade has been active since the end of 2009 and, for this reason, was not part of the research study. Schools for vocational training started participating in the programme from 2011 and, for this reason not part of the research study.). In the remainder of this paper, we will elaborate on this research and present and discuss the most important results.

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## **Method**

### **Recruitment and Procedure**

Contacts of schools that participated in the Stimulation Award competition in 2006-2007, 2008-2009, and/or 2009-2010 were approached by e-mail to provide us with the e-mail address of their school director, student council, and parent council. A dataset with e-mail addresses of every Dutch secondary school was used to invite nonparticipating schools to participate in this study.

Subsequently, directors of participating schools (school directors of schools that (have) participate(d) in the Healthy School Canteen Stimulation Award competition at one point in time during the years 2006–2010) and nonparticipating schools and parents and students of participating schools, were invited to participate in the study and were sent links to online questionnaires. In total, four online questionnaires were sent out; one to school directors of participating schools, one to parent councils of participating schools, one to student councils of participating schools, and one to school directors of non-participating schools (respondents of participating schools only had to answer questions that were relevant to them; respondents of schools participating in the school year 2009-2010 for instance did not have to answer questions about continuation of the programme as they had just started). Questionnaires were sent to

153 directors of participating schools, 139 parent councils, 137 student councils, and 708 nonparticipating schools.

In addition, interviews were held with ten school directors of participating schools of the Stimulation Award competition in the school year 2006-2007 and 2008-2009, who were randomly selected and approached by telephone and e-mail with the request to participate (school directors of schools participating in the Stimulation Award competition at that specific time were not approached to participate, because questions about continuation of the programme would not be relevant yet). All interviews were conducted by an independent research agency. Finally, an expert meeting was held with 12 health promoters of involved Municipal Health Services to discuss their experiences supporting schools during the process of changing the offering of their school cafeteria by implementing the Healthy School Canteen programme. For this expert meeting, all contacts of 28 Municipal Health Services were invited by e-mail to participate. The expert meeting was conducted by an independent strategy development agency.

## **Questionnaires**

### ***Directors***

The online questionnaire for school directors of participating schools first assessed their perception of the school's cafeteria offerings. Specifically, the following questions were asked: "How was the ratio healthy/unhealthy offerings in the school cafeteria before start of the programme?" and "How is the ratio healthy/unhealthy offerings in the school cafeteria at this moment?". Answers were given on 5-point Likert-type scales (1 = *almost entirely unhealthy products*, 5 = *almost entirely healthy products*). Subsequently, questions about the programme, the degree of external support and continuation of the programme, and the Stimulation Award competition were presented. Specifically, the following questions were asked:

(i) "Who manages the school cafeteria?" with three response options; (1) internal management, (2) external management (professionally organized catering), or (3) otherwise, namely.... (ii) "Did your school receive support from the Municipal Health Service?" with two response options; "yes" or "no." (iii) "How do you evaluate the support given by the Municipal Health Service?" Answers were given on 5-point Likert-type scales (1 = *quite insufficient*, 5 = *very good*). (iv) "Which continuation activities did your school carry out?" with response options like "structural change in canteen offerings" and "development of a school food policy". (v) "The Healthy School Canteen Stimulation Award competition motivated to enroll in the Healthy School Canteen programme." Answers were given on 5-point Likert-type scales (1 = *totally disagree*, 5 = *totally agree*).

### ***Students***

The online questionnaire for student councils of participating schools also first assessed their perception of the school's cafeteria offerings. The student councils were asked to represent the opinion of all students when answering the questions.

Specifically, the following questions were asked: “How was the ratio healthy/unhealthy offerings in the school cafeteria before start of the programme?” and “How is the ratio healthy/unhealthy offerings in the school cafeteria at this moment?”. Answers were given on 5-point Likert-type scales (1 = *almost entirely unhealthy products*, 5 = *almost entirely healthy products*).

Subsequently, questions were asked about involvement and perception of the students regarding the programme. Specifically, the following question was asked: “Were students involved at the start of the programme?”. There were three response options; (1) yes, (2) no, or (3) I do not know. In addition, students were asked to respond to the statement: “Our students acknowledge the importance of the Healthy School Canteen programme”. Answers were given on 5-point Likert-type scales (1 = *totally disagree*, 5 = *totally agree*).

### **Parents**

The online questionnaire for parent councils of participating schools explored involvement and perception of the parents regarding the programme. The parent councils were asked to represent the opinion of all parents when answering the questions.

Specifically, the following question was asked: “Were parents involved/informed at the start of the programme?”. There were three response options; (1) yes, (2) no, or (3) I do not know. Also, the following statement was used: “Parents have a say in selection of school canteen offerings”. There were three response options; (1) yes, (2) yes, but only through the parent council, or (3) no. Next, parents were asked to respond to the following statements: “Parents know what is offered in the school cafeteria” and “Parents have a say in the cafeteria’s offering”. There were three response options; (1) yes, (2) no, or (3) I do not know. Finally, parents were asked to respond to the statement: “Parents acknowledge the importance of the Healthy School Canteen programme.” Answers were given on 5-point Likert-type scales (1 = *totally disagree*, 5 = *totally agree*).

### **Nonparticipating Schools**

The online questionnaire for school directors of nonparticipating schools assessed their perceptions of the school’s cafeteria offerings. Specifically, the following question was asked: “How are the ratio healthy/unhealthy offerings in the school cafeteria at this moment?” Answers were given on 5-point Likert-type scales (1 = *almost entirely unhealthy products*, 5 = *almost entirely healthy products*). Also, statements were used to determine which factors would motivate them to participate in the Healthy School Canteen programme. Specifically, directors were asked to respond to the following statements: “The required time investment has to be met for by the school” and “The required finances have to be met for by the school.” Answers were given on 5-point Likert-type scales (1 = *totally disagree*, 5 = *totally agree*).

## **Interviews with Directors**

The interview design was based on the online questionnaire and consisted of in-depth and additional questions about the school director's participation, support during execution of the programme, continuation, Stimulation Award participation, and possible improvements of the programme.

## **Expert Meetings**

### ***Health Professionals***

The aim of this meeting was to obtain more insight in their experiences, needs and the role Municipal Health Services play within the programme. Participants were asked to indicate which components of the programme should be continued, which components should be eliminated and with which components the programme should be enriched. More specifically, one of the statements that was used was "Municipal Health Services perceive the Stimulation Award competition to be an incentive for schools."