



GÖTEBORGS UNIVERSITET
INST FÖR KOST- OCH IDROTTSVETENSKAP

Beans with means -

**School children's experiences of legume based
lunch meals**

Moniqa Nilsson & Aimée Wermelin

Report number:	VT13-50
Examination paper:	15 hp
Program:	Health promotion program, nutrition
Level:	Bachelor
Semester/year:	Spring/2013
Supervisor:	Natalie Barker-Ruchti
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Semester/year: Spring 2013
Number of pages: 37
Keywords: Legumes, school lunch, health promotion, environmental impact, children's response

Abstract

The meat intake in Sweden is increasing, which have a negative effect on numerous health and environmental aspects. To get a healthier environment and population in Sweden, a replacement of all or some of the meat with legumes is considered positive. An introduction to legumes at a young age would be a great way to promote healthy eating habits. The purpose with this study is to investigate the children's response to an increased serving of legumes in the school meal. This study had a qualitative ethnographic approach and participating observations took place in a small school with children in the grades zero to one during their school lunch. During two weeks the lunch menu was modified, this was done by the researchers in collaboration with the chef. All meat was replaced with legumes and the already vegetarian dishes were complemented with legumes.

Overall, there was a positive response to the serving of legumes in the school. Their reactions were affected by taste, looks, expectations, norms and peer pressure. Lentils as an ingredient in soup and lasagna were mostly appreciated, while foods like bean patties and burgers, which resemble meat, were less appreciated as the taste did not meet their expectations. We state that a higher serving of legumes is possible in school lunches to promote healthier and more sustainable eating habits among Swedish children. In combination with education on legumes, the results could yet be improved.



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Nivå:	Grundnivå
Handledare:	Natalie Barker-Ruchti
Examinator:	Christina Berg
Antal sidor:	37
Termin/år:	VT/2013
Nyckelord:	Baljväxter, skolmat, hälsopromotion, miljöpåverkan, barns reaktioner

Sammanfattning

Köttkonsumtionen har ökat i Sverige vilket är negativt både för miljö och hälsa. För att få en hälsosammare befolkning, men även miljö, skulle en ersättning av all eller en del av köttet mot baljväxter vara positivt. Att introducera baljväxter i kosten i ung ålder skulle vara ett bra sätt att skapa hälsosamma matvanor. Syftet med denna studie är att utforska barns respons till en ökad servering av baljväxter i skolmaten. Studien hade en kvalitativ etnografisk ansats och deltagande observationer utfördes under lunchtid på en liten skola med barn i årskurs noll till ett. Under två veckor modifierades skollunch-menyn, vilket gjordes av författarna i samarbete med kokerskan. Allt kött byttes ut mot baljväxter och de rätter som redan var vegetariska kompletterades med baljväxter.

Överlag gav studien positiv respons när baljväxter serverades i skolan. Reaktionerna påverkades av smak, utseende, förväntningar, normer och gruppträck. Linser som en ingrediens i soppa och lasagne uppskattades av barnen, medan mat som bönfärsbiffar och bönburgare, vilka liknade kött, inte var lika uppskattade då de inte mötte barnens förväntningar. Vi konstaterar att en ökad servering av baljväxter i skollunchen skulle vara möjligt för att främja hälsosammare och hållbarare matvanor hos svenska barn. I kombination med utbildning om baljväxter så skulle resultatet kunna bli ännu bättre.

Preface

The last few weeks have been hectic, but at the same time experiencing. We have broadened our views and knowledge in the field of promoting health regarding healthy sustainable meals. We especially want to thank the school for wanting to participate in our study. We also want to thank our supervisor Natalie for supporting us, giving us helpful feedback and leading us on the right tracks.

During these weeks of this thesis, collecting of information, writing the different sections and collecting data have been divided 50/50 between Moniqa and Aimée.

Table of contents

Introduction	7
Purpose and research questions	8
Background	9
Children and food habits	9
School meals in Sweden	10
School children's attitudes towards school meals - earlier studies.....	11
Legumes.....	12
Health aspects & diet recommendations	12
Environmental aspects	13
Theory	15
Method	16
Sample and recruitment	16
Planning of the lunch menu	17
Data production	18
Data analysis methods	19
Ethical considerations.....	20
Result and interpretation	21
Taste and looks	21
Expectations and norms.....	23
Social aspects and peer pressure.....	25
Method discussion	27
Sample and recruitment	27
Ethical aspects	28
Conclusion	29
Further studies	29
References	30

Appendix 1: Information sheet

Appendix 2: School lunch menu

Appendix 3: Observation and interview guide

Introduction

In Swedish society today, people tend to increase their consumption of meat even though the NFA¹ (National Food Agency, 2012a) is recommending that it should decrease and the consumption of fruits, vegetables and legumes should be higher. Meat, especially red meat², and charcuterie products has a relatively high content of saturated fatty acids, which means that a high consumption of meat also leads to a high intake of such acids. This type of fatty acids have been shown to correlate with numerous health problems, such as metabolic syndrome, cardiovascular disease, and cancer (Sinha, Cross, Graubard, Leitzmann & Schatzkin, 2009; World cancer research fund & American Institute for Cancer Research, 2007). In contrast, research shows that an increased intake of legumes, vegetables and fruits reduce the risk of these health problems (American Institute for Cancer Research, 1997; Esmailzadeh, Kimiagar, Mehrabi, Azadbakht, Hu, & Willett, 2006; Mirmiran, Noori, Zavareh, & Azizi, 2009).

The high meat consumption increases the environmental impact in terms of increased emission of polluting greenhouse gases (Lööv et al, 2013; Steinfeld, Gerber, Wassenaar, Castel, & De Haan, 2006). Not only are the worldwide shipments of meat polluting the air and seas, the producing of livestock also has a negative impact on the environment in terms of biodiversity and usage of land (Steinfeld et al. 2006). Legumes, on the other hand, have a much smaller impact on the environment and could therefore be a great alternative protein source (Davis, Sonesson, Baumgartner & Nemecek, 2010).

To get a healthier population in Sweden, a good way could be to promote healthy eating habits from a young age, since research has shown that taste preferences can be set during the younger years in life (Ask, Marcus & Sobko, 2010; Beauchamp & Mennella, 2009; Berk, 2013; Forestell & Mennella, 2007). This may also lead to good habits even later in life. Indeed, the NFA advocates the school to be a most suitable arena to promote and create healthy eating habits for children (NFA, 2013).

Since 1985, Swedish children have had compulsory schooling through the grades 1-9 (SFS, 1985:1100) and according to the Swedish school law (SFS, 1997:1212), the Swedish school is bound to serve school lunch free of charge, every day of the week. This makes the school an excellent place to introduce the school children to healthier meals, as they can do so in a positive and natural way (NFA, 2013) and at the same time increase the children's food repertoire (NFA, 2001). According to the NFA's recommendations regarding food intake, the Swedish population should have a higher intake of legumes and lower consumption of meat. They also mean that as their policies are to work for the school to be an arena for health

¹ The National Food Agency is the central administrative authority for matters concerning food.

² Red meat is defined as: pork, beef, lamb and goat by World cancer research fund & American Institute for Cancer Research, 2007.

promotion and consisting healthy and climate friendly eating habits, there should be more legumes served in school meals, either to replace meat or as a compliment.

Earlier research found have been done with the purpose to investigate how children experience their school lunches, what they think about their food and how often they eat the school meal (Andersson & Nystedt, 2006; Prell, 2004; Ågren & Nilsson, 2007). The only research found on altering with the school meal was done by Prell (2004) within which she investigated how one could make school children eat more fish. This means that the research field is lacking a study done on children's responses to legumes and how the consumption of it could be increased in school meals.

As a result from the arguments above, this thesis will investigate how school children react when altering their school lunch and making it more legume-based. A school to collaborate with was chosen and modified meals were served during a period of two weeks. If the school usefully can increase the serving of legumes in the school meals and maybe also completely replace some of the existing dishes with meat as the main ingredient, this would be a great way to get healthier school children and a healthier environment at the same time. Hopefully this will lead to a healthier population in Sweden in the future.

Purpose and research questions

The broad purpose of this thesis is to investigate the children's response to an increased serving of legumes in the school lunch. The specific research questions are:

- How do the children react to the legumes regarding taste and looks?
- Do the children have expectations on what will be served by the meals name?
- Does peer pressure affect the children's intention on consuming the legumes?
- Can the school successfully increase the serving of legumes in an appetizing and healthy way?

Because of the high meat intake in Sweden, both health and environment are affected negatively. To promote a healthier population and environment, an exchange of meat for legumes would be positive. One arena to promote healthy sustainable meals is the school, when children's food preferences are still evolving. With this study, we like to show how easy it is to improve the school meals and we provide information how it can be done to the children's satisfaction.

Background

The background covers the topics related to Swedish school meals: (1) *how children's food habits are created*, (2) *laws and recommendations regarding the Swedish school meals*, (3) *children's opinions about the school meal* (4) *what the daily diet recommendations are and how different types of food affect our health*, and (5) *how legumes can affect health and environment and how they could work as a replacement for meat*.

Children and food habits

Preferences for taste and attitudes towards food are learned and set early in life (Ask et al. 2010; Beauchamp & Menella, 2009; Berk, 2013; Forestell & Menella, 2007; Rozin, 1990). To get a healthier population in Sweden one way could be to promote healthy eating habits in a young age to last throughout life. Children tend to prefer and base their selection of foods upon a special taste or consistency (Birch, 1999; Ludvigsen & Scott, 2009). For example, in France and Sweden soft and sweet foods are more preferred by children (Asplind et al, 2000). Also there is a great importance that the food has an appetizing look as children eat with their eyes. Asplind et al. (2000) also means that it is important that children get to taste food from different cultures and education about healthy foods in school are also a way to promote healthier eating habits. According to Sepp (2002) children do not only label food as bad or good but as “food” and “non-food” and means that it is because of the invisible norms of our society. What people choose to eat is not merely a matter of individual taste but factors like socioeconomic position, cultural practices, political and economic context and history also plays a role, and the food choices can as well act as definers of status and lifestyle (Bourdieu, 1984; Ludvigsen & Scott, 2009). Ludvigsen and Scott (2009) means that children's food preferences are linked to both learned behavior and social expectations and what type of food children are served, both in school and at home, is closely related to cultural practices. Further Ludvigsen and Scott (2009) says that lots of earlier studies on children's food consumption shows that children are strongly influenced by their friends and peers.

Neophobia is common among small children which is a fear of eating food that they have not tasted before (Abrahamsson, Andersson, Becker & Nilsson, 2006). If a food is not in their liking of taste they might reject it for a long time thereafter. This stems from when the human being got their foods solely from nature and served to protect from bad foods. Abrahamsson et al. (2006) explains that this means that human beings, in particular children, have good learning abilities when to taste new foods, whereas taste is very important when trying a food for the first time and to learn to set preferences for specific foods as long as it has a good taste.

There is a correlation between frequency of exposure to food and preference (Birch & Marlin, 1982). Birch and Marlin means that the more a novel food is exposed to a child it becomes less unknown and preference for the specific food increases. Wardle, Herrera, Cooke &

Gibson (2003) means that to encourage children's liking for a previously rejected food, repeated exposure to the taste of unknown foods is a promising strategy. The NFA (2013) gives an example in their guidelines that if a student sees chickpeas being a part of the salad buffet every day and other students and teachers to serve themselves of them, perhaps the student wants to try them as well.

According to the NFA (2001) the daily school lunch has a great opportunity to increase students' food repertoire by giving students the opportunity to try different foods, dishes and cuisines. In the guidelines 'Good food in school' they state that the school has the purpose to create a good foundation for consistent healthy eating habits by nutritious and pleasurable school meals (NFA & Institute of public health, 1999). Further they say the school has outstanding opportunities to promote a healthy lifestyle with good eating habits in our children in a positive and natural way (NFA, 2013).

School meals in Sweden

Since 1985, Swedish children have compulsory schooling from the grades one to nine meaning that every child who is living in Sweden has the right to have equal access to education in the public school system (SFS, 1985:1100). There has been served school meals since the 1800s in Sweden, but then it only was in some parts of the country and it was just for the poor children, they were then served porridge and milk (Lundmark, 2002). It was not until 1997 that the Swedish schools were bound to serve school lunch free of charge every day of the week (SFS, 1997:1212). This means that the Swedish children do not only create eating habits and food preferences at home but also the everyday school lunch has a big role in shaping a child's food culture. Since the year 2011 there is a new school law which says that the school meals that are served should not only be free of charge but also be nutritious (SFS, 2010:800). The NFA's work regarding school meals also includes their other missions from the government that since of April 2013 it should achieve the standards to be environmental friendly (NFA, 2013).

'Good food in school' are guidelines for school meals addressed to pre-school, elementary school, high school and after-school that was released for the first time year 2007 by the NFA based on the Swedish nutrition recommendations, SNR (NFA, 2013). The guidelines are meant to be a tool for all schools to create nutritious and attractive school meals with high quality, as all municipalities are themselves responsible for the school lunches, and to promote good eating habits among students as a support for the important public health work. Year 2013 the NFA released new revised guidelines due to the new school law 2011 that requires the school meals to be nutritious, but also by the reason that the school meals now also should have more focus on being environmentally sustainable.

An average school lunch should provide for 30 % of the recommended daily intake of energy as well as recommended intake of vitamins and minerals (NFA, 2013). The lunch supply should each day consist of:

- One or more cooked meals, with great advantage one vegetarian alternative that shall be available for everyone
- Salad buffet with at least five different components
- Bread and spreadable fat
- Milk and water

(Source: NFA, 2013)

The new guidelines encourage schools to promote environmental health and reduce foods impact on environment by decreasing the meat consumption and serve more beans, lentils and peas (NFA, 2013). Further the NFA encourage to inspire and challenge the students taste preferences meaning that the students are the futures consumers that through the school meals can obtain knowledge, interest and curiosity of food and meals.

School children's attitudes towards school meals - earlier studies

According to earlier studies, school children today generally have a negative opinion about the school meal (Andersson & Nystedt, 2006; Prell, 2004) and that it sometimes even taste "disgusting" (Andersson & Nystedt, 2006). The children think that the food does not taste as good as it does at home, even if it is the same meal. They also think that many of the school meals taste the same and have the same seasoning, even though they are served under different names on the menu (Andersson & Nystedt, 2006; Prell, 2004). Depending on whether the children wanted to eat the meal or not, the essential factors were good taste and an appetizing look (Prell, 2004). According to Ågren & Nilsson (2007) the name of the dish was one of the determining factors if one would taste the food at all. The results of the study by Andersson and Nystedt (2006) shows that peer pressure could be one of the reasons that it sometimes tended to be a lot of talk about how bad the school meal tasted.

In terms of legumes, the only dish earlier studies seem to have brought up is pea soup³ and the attitude towards it is not positive (Ågren & Nilsson, 2007; Andersson & Nystedt, 2006). However, the results in Andersson and Nystedt (2006) study says it is not a dish that is usually served at home neither. Stereotypically legumes have a bad name in Sweden, but there is no research upon the subject. Somehow, the legumes have been pushed aside in the gastronomical world, but we do not know why.

³ A traditional Swedish dish; soup made off yellow peas and it often contains some kind of salted pork.

Legumes

Definition: The word comes from the Latin name *legumen*, which means *bean*.
“A pod, such as that of a pea or bean, that splits into two valves with the seeds attached to one edge of the valves. Such a pod or seed used as food. A plant of the pea family”.
Included in this family are beans, peas, chickpeas, soybeans and lentils among others.

(Source: Houghton Mifflin Company, 2009)

Legumes are featured by their high nutritional value and can be recognized and labeled as both a source of vegetables and a source of protein (Abrahamsson et al, 2006). They are valuable for their high content of essential minerals, mainly iron, numerous vitamins, low content of saturated fatty acids and are also rich in fiber whereas they have low glycemic index⁴. Legumes are especially characterized as a good source of protein and are compared with meat, fish and eggs. The NFA (2012b) states that an amount of 0,5 dl of legumes should be consumed daily. This is equal to a one meal of pea soup and a small plate of salad beans per week. Legumes have a relatively low price per kilogram and are often cheaper than meat products which make it a good protein-rich alternative regardless of socioeconomic status.

Health aspects & diet recommendations

The National food agency (NFA) is a governmental organization that has the mission to promote safety and health concerning food (SFS 2011:91). One of their primary goals is to work for the Swedish population to hold good eating habits for a healthy lifestyle. According to the instructions given by the government, the NFA shall work for e.g. promote existing governmental environmental goals, as well as promote opportunities for consumers, especially children and adolescents, to make conscious choices regarding healthy food (SFS 2011:91). The NFA is currently recommending that the Swedish population should increase their consumption of fruits, vegetables and legumes and to reduce their consumption of meat (NFA, 2012a). The daily-recommended intakes of fruit and vegetables are 500 grams for adults and 400 grams for children up to the age of 10 (NFA, 2012c). In 2003 a nationwide dietary study was done by the NFA (Enghardt Barbieri, Pearson & Becker, 2003) to examine the eating habits of Swedish children. The aim was to register food intake during four days using a food diary two times in one year to give a representing result nationwide. The results show that the Swedish children only eat half the amount of the vegetables that is recommended and have an inadequate intake of dietary fiber. The distribution of energy giving components (protein, fat and carbohydrates) was good yet; the types of fat were not satisfying with an excessive intake of saturated fatty acids. Also almost a doubled intake of sodium than recommended. The high amount of sodium is believed to come from meals with

⁴ Glycemic index- is an index on how quickly or slow carbon rich food is digested and absorbed in the gastrointestinal tract, i.e. how much the food effect the blood glucose level (National encyclopedia, 2013a).

meat and charcuterie products. The study also shows that the intake of legumes are relatively low and is consumed once a month, which puts it among the five foods that are consumed most seldom, along with e.g. alcohol beverages, light soda and low fat culture milk.

Another study done in Malmö, Sweden (Gustafson, Nilsson & Rosell Nilsson, 2008) showed that the majority of the children who participated in the study only ate vegetables and fruits once or twice a day. This can be translated as one to two portions of fruit and vegetables, which is not even half the amount of what the NFA recommends i.e. four to five portions a day depending on age (NFA, 2012c). To be able to account for the four to five vegetables and fruits a day, it is important to eat at least one portion with every main meal, and possible to consume the rest as snacks. Nevertheless, according to Barrington & Meuller (2009), only 41 % of the school children in their study ate vegetables several times a week during the school meal and as few as 22 % consumed vegetables during the school meal every day.

Since the consumption of meat has increased so has the prevalence of the metabolic syndrome (Babio et al, 2012). As meat, especially red meat and charcuterie, has a relatively high proportion of saturated fats, research shows a correlation between high meat consumption and numerous health problems such as cardiovascular disease and cancer (Sinha et. al. 2009; World cancer research fund & American Institute for Cancer research, 2007). Several studies of today show a correlation between diet and cancer risks (Leterme, 2002). The American Institute for Cancer Research (AICR, 1997) has given 15 recommendations to help reduce cancer risks based on their published review of research studies where different types of cancers and its relationship to dietary intake were examined. The first and most important advice AICR gives is: ‘choose predominantly plant-based diets rich in a variety of vegetables and fruits, pulses (legumes) and minimally processed starchy staple foods’. Legumes play an important role in reducing cancer risks with their high nutritional value, high fiber and low fat content when it replaces meat with high fat content. According to Friel et.al. (2009) a reduced intake of saturated fatty acids and cholesterol from animal sources would decrease death related to certain heart diseases. The NFA (2012b) is claiming that legumes with a high content of protein can with great advantage replace all or a large portion of our meat intake. Thus to promote health and to reduce the negative environmental impact, a positive development would be a reduction in consumption of meat and an increased consumption of nutrient dense legumes (Davis et al. 2010; Lööv et al, 2013).

Environmental aspects

Another reason to why the NFA promote the Swedish population to increase the intake of legumes and reduce the meat consumption is its effect on the environment. In the growing western society today, both economically and population wise, our consumption of meat has increased which has led to that our impact on the environment through increased emissions of greenhouse gases is getting bigger (Steinfeld et al. 2006). Year 2006 the livestock production accounted for approximately 18 % of the carbon dioxide emission and circa 37 % of the anthropogenic methane emissions. The livestock sector also stands for a large part of the sea

pollution which is causing dead zones in coastal areas and degradation of the coral reefs. Livestock accounts for 30 % of the earth's land surface and stands for about 20% of the terrestrial animal biomass, which means that e.g. a large part of the Amazonas has been deforested and that the wildlife reduces. The meat production around the world is projected to increase to a level of 465 million tonnes in 2050, compared to the 229 million tonnes in 1999/01. To avoid a higher environmental impact than the current, we have to at least cut our meat consumption in half.

Theory

Food preferences are not merely set by taste and looks but norms, culture and the social context. The theory social constructionism provides a perspective on how food choice and consumptions may be created and affected socially.

In this study, inspiration from social construction has been used without following a narrow theoretical road. Social constructionism is a social science theory that claims that the perceived reality is socially constructed and a product of how people collectively think, communicate and act (Elder-Vass, 2012). In other words, our perceived reality is nothing else but socially constructed beliefs. Social constructivism can often be compared and even considered equivalent to social constructionism (National encyclopedia, 2013b). Also Gergen (2009) explains social constructivism to be under the same label but more narrow. The literature on social construction shows that scientists, mainly sociologists and philosophers, claim that the theories differ and some say it depends on how the theories are used (Gergen, 2009; Halkier & Jensen, 2011; Kukla, 2000). Elder-Vass (2012) says that culture, language, discourse and knowledge in social life depends on norms in society which are socially constructed. Theory of social construction is often used when to explain how social roles are constructed e.g. gender and class (Elder-Vass, 2012, Gergen, 2009; Kukla, 2000). Elder-Vass (2012) describes how there is different varieties of constructionist thinking within the social sciences. One of them is focusing on how our language, as our main communication tool, helps us express how we perceive our world and therefore shapes it in a particular context. That means that in another context, the reality can seem different, which creates different acts and communications and will then lead to different consequences. Using the theory in analysis helps to identify certain patterns in language and actions by focusing on what has actually have been said and done and shapes that specific social context. For example, the theory is a tool to use when analyzing how the children speak about the school lunch, and with each other about food, and if that may affect their consumption. Halkier and Jensen (2011) mean that the advantage with a social constructivist version of practice theory, which is often used in studies of consumption, is that it helps analyze how manners of consuming are formed by social reproductions and changes. The theory enables researchers to understand consumption as a continuous result of several practices and social relations that are intertwined. With the thematic analysis used, expectations and norms regarding school lunch became visible in the light of the theory.

Method

The study was inspired by an ethno-methodological research approach and a qualitative micro-ethnographic field study with an exploratory design (Bryman, 2011; Patel & Davidson, 2003). An ethnographic study is the name for a scientific approach, within which the aim is to describe and evaluate a phenomenon within a group of people with a special focus on the group's culture (Bryman, 2011; Kullberg, 2004). It can also be named field study, as the data collection is implemented in a particular field. An ethnographic study usually requires the researcher to spend a long time in the field. As this was a bachelor thesis with a limited time of eight weeks and the time in the field was set to two weeks Bryman (2011) would call this a micro-ethnography.

Sample and recruitment

A small school with its own kitchen was the desired arena to implement the field study. It allowed us to closely communicate with the chef that controlled the food that was served. We could thus easily modify the lunch menus. First grade pupils were chosen as a suitable age group.

To recruit an elementary school in the short amount of time given, a "first best selection" was made (Esaiasson, Gilljam, Oscarsson & Wängnerud, 2012). A school located in a municipality close to a large Swedish city was chosen. A phone call was made to a personal contact who was working at the elementary school which was suitable to the requirements i.e. small school with their own kitchen. The personal contact then handed out the headmasters email address and after an email conversation with the headmaster a meeting was set.

The school was a small independent school with two grades, zero and one, which means that the pupils was between six and eight years old, the total amount of pupils participating was 22. The school was attached to a preschool which they shared the school kitchen with. They had their own chef who prepared all their meals from scratch. Indeed, this person did not believe in semi-manufactured food. The kitchen was of normal size for a small school. The area that the school was located in has a relatively high socioeconomic status, with most of the people living in this area owning houses. Many of them have high incomes. The lunch was served in one of the children's classrooms and when eating, the two classes ate in their respectively classrooms.

The school was happy to participate in the two weeks modifications of the meals and was ready for the changes. The meeting took place at the school one week later and information about why the study would be done and how it would proceed was given. An information sheet for the parents to sign, for approving their children to be included in the study, was

given to the headmaster to hand out to the parents and the headmaster also collected the sheets (see appendix 1).

There was no selection among the pupils to participate. The classes were small with a total of 22 pupils in both classes, who were not known to the researchers in beforehand. As the purpose of the study was to “investigate the children’s response to an increased serving of legumes in the school lunch” the decision to study all the pupils and no one in particular was made. Due to a holiday that took place during the weeks of the study, only half the amounts of children were available during the second week as the school was closed and only the after school care was open. The school lunch was, however, served as usual.

Planning of the lunch menu

Before the time at field, a meeting with the chef took place, to which information about why and how the study would take place was given. Questions about how she, the chef, prepared her food, on how serving more legumes would affect her work schedule and if she was used to preparing legumes were asked. The weeks during which the study would take place were determined and a plan for the weekly menu was made. As a holiday occurred during the two weeks of study only four meals per week was served, i.e. eight coherent school days. The meals were modified and the menu was planned by the researchers in collaboration with the chef. The already pre-planned menu for the two weeks that the study was to take place in was used as a basis. Consideration of the schools pupil’s favorite meals was given when planning the weekly menus, three of the favorite meals was lasagna, tacos and burgers. According to Kungsbacka community (2012) these meals were also three of the favorite meals in their study on children in Kungsbacka schools. Changes were made in terms of exchange of meat for legumes, except the one dish with fish. This because according to NFA’s guidelines for school meals one fish dish should always occur in the weekly menu (NFA, 2013). The already vegetarian soups were complemented with legumes. When names were set for the dishes, precaution was taken to not call any of the dishes vegetarian, but instead to write out e.g. soup with red lentils. When the weeks of study came to date the weekly menus were printed and put up in the school premises for the children to see as the school normally does (see appendix 2/figure 1).

<i>School lunch Menu</i>	
<u>Week 1</u>	
Monday:	Pasta Carbonara with broccoli and peas
(Tuesday:	Fish file corn flakes breaded, cold lemon sauce and boiled potato)*
Wednesday:	Red pepper soup with red lentils and home baked bread
Thursday:	Lasagna with salad
(Friday:	Holiday)*
<u>Week 2</u>	
(Monday:	Holiday)*
Tuesday:	Tomato soup with white beans and tortellini, home baked focaccia
Wednesday:	Patties on kidney with boiled potato and lingon
Thursday:	Asian gardener stew with rice
Friday:	Tex mex burger with potato wedges
<small>* = Days that was not observed or included in the study.</small>	

Figure 1. The school lunch menu

Data production

As this was a micro ethnographic study, the data was collected by participating semi structured observations and unstructured conversations.

The aim was to study the children's natural context and environment in the actual moment, thus the method observation was chosen to give highest validity (Patel & Davidson, 2003). Another reason to why observation was chosen was that the children in such a young age, six to eight years old, do not have high communication skills which make observation the best technique as Patel and Davidson (2003) suggests. It is also a good method since the researchers are not depending on that all children want to cooperate or answer questions. A participant observation that was semi-structured was done with the help of an observation guide (see appendix 3). The observation was carried out through participation during the lunch meals which included serving the children food and eating with them at the table.

The participated observation included unstructured interviews which were inspired by Bryman (2011). He describes it as the interviewer has different themes in mind during the conversations. A question is asked and thereafter the participant can answer and go along as he or she pleases and following questions is only implied when interesting themes is brought to the surface. Another inspiration used was what Kullberg (2004) calls informal interviews, which means that the interviews are conversation-like.

As a complement to the informal unstructured interviews, an interview guide was made inspired by Trost (1993) and Bryman (2011) (see appendix 3). The interview guide also included guidelines of what was going to be observed. Trost (1993) suggests that a list with question areas should be written down, that the list should be short, consist of large subareas and that the content should be learned by heart. Sound recording was made during the interviews with the researchers' phones as instruments that made it possible to sound record everything that was said during the time in field. That was helpful when observing since taking notes and asking questions at the same time was considered difficult. The pupils involved in the study, did not know that they were being observed and they did not know that they were being sound recorded.

At field, the days during the two weeks of the study looked the same from the researcher's point of view. The day when fish was served, no observations were made. Arrival at field was approximately 20 to 40 minutes before lunch time. A small conversation with the teachers and the chef was held the first day to ensure that everything was in order. The lunch was served in the classroom of grade zero, and the pupils then ate in their respective classrooms.

Observations were carried through by the researchers taking the teachers' place during serving, also by researchers sitting down at one table each in respective classrooms. The observation guide was memorized in beforehand and kept in mind during the observations (see appendix 3). At the time of consumption, the researchers ate together with the pupils with the purpose to make them feel more comfortable and the observers to become one with the group without disturbing the pupil's natural behavior (Patel & Davidsson, 2003).

During the observations, the sound recorder was on throughout the lunch. The researchers did not always sit down at the same time as the children, whereas the sound recorder registered everything that was said by the children. The phone was placed on the table, lying closely to the respective researcher. During the meal, questions were asked based upon the interview guide (see appendix 3) and inspired by Bryman (2011), follow up questions were asked when the researcher felt it was needed. After finishing the lunch, approximately 30 minutes long, notes of associations made during the day were taken. Løkken and Søbstad (1995) suggest that it should be done while fresh in memory to reduce loss of valuable information.

Data analysis methods

After every day at field, transcription of the recordings and observation notes was completed, i.e. the researchers transcribed the data collected. When analyzing the collected data, a type of thematic analysis, which was inspired by Bryman (2011), was conducted. Bryman describes thematic analysis to be applied by dividing the data into different themes and sub-themes that later will be arranged in a matrix. The themes are constructed by reading data collected in the field. According to Kullberg (2004), an ethnographic researcher is working with production of theories, and when following the road of discovery, theories are created in particular during the data collection and analysis of data. So before and during data was collected, there was no

existing theory, but particular phenomena and keywords protruded during the observations, which were linked to specific existing theories during the analysis. Theories of social construction were then applied in the interpretation of collected data. With help of social construction theory, certain phenomena and reactions towards the legume-based meals from the participating children was identified, categorized into themes and then interpreted. Such as, taste and looks, expectations and norms, and last social aspects and peer-pressure.

After the time at field, conversations with the teachers and the chef were held. During these conversations, information about the children's background was brought up. Such as, that the children with healthy appetites usually ate like that and that some of the children that were picky about their food are usually like that. One girl among the pupils had parents who were vegetarians and was therefore familiar with legumes and used with meals with none or little meat. This information was helpful when analyzing data.

Ethical considerations

In this study consideration to the four ethical principles was taken. When working with minors, it is important to get the parents approval for the children to participate in the study (Vetenskapsrådet, 2002). Accordingly, an information sheet was handed out for the parents to sign, whether they wanted their children to participate in the study or not. The parents were assured that all the collected data were only to be used by the researchers. Also the school and the children's names were to be handled confidentially. The information sheet included some prior information of the study for the parents to read. The ethical rules says that participants in a study should get prior information about the study, but in a participant observation and in some physiological experiments it can be excluded since it can compromise the purpose of the study. Hence the pupils did not know that they were going to be observed during lunch time and neither that they were going to be recorded.

Result and interpretation

From the collected data, themes emerged. The result is presented in themes along with interpretations from a theoretical point of view. The result also includes quotes from the observations which were translated from Swedish to English by the researchers. The results show that the children's responses to the different legumes served (green peas, lentils, kidney beans and white beans) varied. Within the different themes, i.e. taste and looks, expectations and norms, social aspects and peer-pressure, the result and analyze has been divided by the different types of legume based meals.

In addition to the children's responses, from the chef's point of view, there were no complications. It did not require great effort to do these altered meals. The chef did not think that the altered meals where more time consuming than usual and the meals were easy to plan.

Taste and looks

In this section, results regarding taste and looks of the served food are analyzed and discussed. Some of the factors that have been observed are, what the food looked and tasted like and how the children perceived the texture. The meals served were, two lentil-based meals; red pepper soup and lasagna, one pea-based meal; pasta carbonara, two white bean-based meals; Asian gardener soup and tomato soup, and two kidney bean-based meals; patties and tex-mex burgers.

Most appreciated by all the children were the lentil-based dishes. Many of the children ate at least two portions. The lasagna was preferred a little bit more, as soup usually is not one of the favorite dishes. The children did not think it tasted any different than usual, they did not realize until being told that it did not contain meat. A few of the children did not like their lasagna, some of them just ate the pasta and cheese with the explanation that they usually do not eat the filling. While another child said that he did not like lasagna at all and did not taste it. There were no comments about the texture on the lentils.

The meal pasta carbonara with green peas was a popular dish among the children. Most appreciated was the pasta and sauce, almost all of the children ate everything on the plate, but when having a refill some of children excluded the peas and bacon on their plates. Only one child expressed pure joy when peas were served. Most of the children ate the green peas but seemed indifferent to the taste.

Researcher: What do peas taste like then?

Child A: Uhm, it tastes like... water.

Dishes with whole white beans were only appreciated by some children. The gardener stew contained chopped vegetables of different kinds which the majority of the children

complained about referring to the taste of it. Whereas to the beans there was only a couple negative comments regarding taste. The beans were not rejected by all the children, only some. A few children liked and appreciated the beans in the stew. Most of them ate two portions but did only have a refill of the rice and a few even had sauce. They did not care for the soup too much, not only because of the beans but because they did not care for soup at all. During these meals, one child expressed negativity towards the beans.

The least appreciated dishes were the bean-patties and the tex-mex bean-burgers. When eating the patties the children expressed that the texture was “soft” and that it tasted “different” and “unusual”. One child said she liked it and that it tasted like vegetarian meatballs. Another child said that it tasted real good and mashed it together with the sauce and potatoes, explaining it is just like her father use to do. Besides these girls the patties were not well accepted among the children, some of them finished them; the rest of them did only have a bite and then rejected the patties and a couple of the children were particularly negative and expressed feelings like “Ugh” and “Yuk”.

All the children were served the burger with accompanied bread and some of them choose to have sauce and vegetables too. Some of the children realized quite quickly that it was not a real hamburger made of meat. They complained that it was too “soft”, someone described it as “watery”, and thereafter stopped eating it. The same girl who liked the patties and said that it tasted like vegetarian meatballs, liked the burger and said that it tasted better than a “normal” burger does. One boy thought it tasted the same as the patties that were served two days before and did not like it. Most of the children did not like the burgers, even if some of them thought it tasted better than the patties.

The lentil-based meals did not give any special reactions towards texture, taste or looks. This could be explained by that red lentils are very small and they do not have a prominent taste or texture. Possibly this is why the children did not have big reactions towards the lentils. If they were to be served green lentils instead, which are bigger and have a different texture and taste, maybe they would have reacted differently. Green peas are a common Swedish legume, but are more often labeled as a vegetable, and the children are generally used to its taste and looks. This can explain why there was no certain observations regarding taste and looks when the children were being served green peas.

When whole beans were served, some children disliked them while others liked them a lot. There were only two types of beans served, i.e. kidney and white beans, these beans are mealy in consistency. If another sort of bean were to be served maybe other reactions would occur. No special comments about the beans in the Asian gardener stew were made, there were only comments regarding the chopped vegetables. This shows that it is not always the beans that seem to be the problem when disliking a meal. The children who had a healthy appetite normally ate and liked the taste of almost everything during the weeks of study showing that these children were not afraid of trying new foods and may have a broad spectrum of food preferences.

A couple of the children had a negative opinion to the food before they even tried it and were picky. For example, one girl said during several meals that it was not her “taste” just from the looks of it. This phenomenon can be explained as neophobia. Abrahamsson et al. (2006) says that it is common among young children but that they can learn to like a new food as long as it has a good taste. Previous conversations with the teachers and chef also showed that these specific children usually did not eat a lot, even though it was food known to them.

The soups were not highly appreciated in taste, just as expected since information that soups generally is not in the children's preference was retrieved from the teachers and the chef. The red pepper soup, however, was appreciated by most of the children. An explanation towards the disliking of some of the meals could be that the children did not like how it looked. As Prell's (2004) results shows, the look of a meal inter alia is one of the most important factors that will decide if a child will eat the meal or not. This can also explain why the children did not give any special reactions to the bean burgers while they were served as they looked similar to usual meat burgers, but the negative reactions occurred first when the children tasted it. Also the lasagna was much appreciated as it neither looked nor tasted any different from meat-based lasagna from the children's point of view. The result regarding taste and looks shows that meals made healthier, in this case including more legumes than meat, were appreciated and considered served in an appetizing way by most of the children.

Expectations and norms

Here the results and analysis of the meals are presented in terms of pre-existing expectations and norms that the children have on how some of the dishes were supposed to look and taste like. These expectations and norms can be affected by e.g. parents, friends, school and society.

When being served the lentil-based dishes, the children did not have any special expectations. Lentils was unknown to almost all of the children and they did not know what lentils tasted or looked like. A couple of the children, sitting at different tables, thought that it was the same as contact lenses⁵ that their parents used, and an explanation was needed.

Child A: Where are the lentils?

Child B: I don't know.

Child A: There's none of these kinds of glass lenses that one has...

Researcher 1: I have never eaten that, what is that?

Child A: You have it in the eyes.

Researcher: Contact lenses?

Child A: Yes.

(...)

Researcher 2: Do you like red lentils?

Child C: Lentils...?

Child D: (*interrupts*) You don't eat lenses, you have 'em in the eyes! (*with a happy voice*)

Child C: Oh.. if you can't see so well. My mom has that.

⁵ In the Swedish language the word “lentils” is the same as “lenses”.

As the tomato soup and Asian gardener stew had been served before, certain expectations about the taste already existed. Towards the soup, no observation regarding dissatisfaction was seen, but when being served the stew a lot of the children looked a bit surprised when they saw what was on their plate as they did not expect the stew to contain beans and such a large amount of vegetables. Some of the children even expressed it as being positive.

Regarding the patties and bean burgers there were high expectations, especially towards the burgers. When the tex-mex burgers were served two days after the patties, no children made any comments when being served. However, the burgers did not meet their expectations and most of the children were disappointed when they realized that the burger did not contain meat. Indeed, their biggest concern was that the texture was too soft. Comments like “The chef do not know how to make burgers properly” was said.

Child A: The chef can't do real hamburgers!

Child B: She's puts beans in them (*with a grumpy voice*)

The girl, who said that she liked the patties and burgers, commented that the bean burgers tasted better than “normal” burgers do. One boy did not believe that the burger was made out of beans when being told so by a girl and she further stated that they are only served vegetarian food during these two weeks.

Since the Asian gardener stew and the tomato soup had been served before, the children had some expectations on how it was supposed to taste. When they later realized that there had been some changes on the ingredients of the meals some children seemed a bit disappointed. Especially towards the Asian gardener stew since the stew is not usually served with as much vegetables as it was during the week of study. Being surprised that the stew contained beans did, however, not lead to negative responses. Among a few of the children it evolved into a game instead where they compared with each other how many beans they had, and the one who had the most “won”. This action was also done by a few of the children when the red pepper soup was served as the lentils were hard to distinguish. This could be seen as expectations not being met does not always have to have a negative effect.

When serving bean burgers and patties, the texture was one of the elements that the children did not like. Maybe it was a bad idea to take one of their favorite meals and replace them with beans as their expectations then were high. This caused the children to compare the two dishes, and the beans did not have any chance to win taste-wise. At the time of study, the burger and patties names on the menu did not include the word bean (see appendix 2). This could have been an influencing factor on the children's opinions about the burgers and patties as they may have expected them to be made out of meat. As Ågren and Nilsson (2007) states, a determining factor if children will taste the food at all is the name of the dish.

As the term vegetarian never was used by the researches nor written on the lunch menu, why one child thought it was only vegetarian food for two weeks is unclear. Parents, teachers or

other people may have spoken to the child about the study being made. The fact that the girl had the perception that there was only vegetarian food for the two weeks might have affected her consumption positively though, as her expectations were according to what was being served, i.e. non-meat legume based meals.

An explanation towards the phenomena not liking the foreign taste and texture of bean-based patties and burgers foremost, but also the other legume-based meals, can be the children's norms on food. As social constructionism theory explains, the perceived reality is socially constructed and norms, including food-culture and knowledge, are a part of these constructions (Elder-Vass, 2012). The children learn what certain meals should taste and look like, and that what they are used to eat becomes their norm for food. In Sweden, for example, the norm is that a meal should contain meat and therefore children could consider a meal without meat strange. The study showed that the children did not know what lentils were and they did not have knowledge about many of the vegetables or legumes served during the two weeks of study. Poor knowledge about legumes among the children seems therefore to be a result of the normative view of legumes being an unfamiliar food and a small part of the food-culture in Sweden. The one girl who both liked the patties and burgers, and thought that the burger tasted better than a "normal" burger, was later found to have parents who were vegetarians, which might mean that her norms is not to have meat as a natural part of her diet.

A couple of the children showed signs of labeling the legumes as "non-food" when there was burgers served, saying it is not "proper" burgers or real food. It was not the burgers they expected to be served as school lunch and this is what Sepp (2002) explains as invisible norms. This can also be related to the social constructionism theory, as to what is seen as food and "non-food" is a part of norms that are socially constructed (Halkier & Jensen, 2011). One boy made a comment referring to food being likeable by girls or boys:

One girl eats only pasta and sauce and has bacon, peas and broccoli left on her plate. The researcher asks why she has not eaten it. A boy sits next to them.

Boy: Doesn't girls like bacon?

Girl A: Sometimes.

Girl B: I LOVE bacon!

This indicates that the boy has some preexisting thoughts about food preferences possibly being related to gender, or differs between girls and boys, which is not a fact but a socially constructed norm.

Social aspects and peer pressure

This section provides an account of the different social aspects, as socially constructed norms and peer pressure, that could have affected the children's reactions on the food.

The children's reactions and preferences to food were not completely independent. Situations occurred during many of the meals where the children influenced each other's consumptions

when expressing opinions. For example, one girl who ate the bean patties and expressed that she liked it, stopped eating after the other children with frowning faces and sounds like “ugh” expressed negativity towards the patties. Only at the serving when nothing had yet been said about the food, the children were unaffected by each other and chose food out of looks, expectations and hunger. In a social constructionist view, language is used as a tool to shape our social life and it was proven to have a significant influence on the children’s perceptions (Elder-Vass, 2012).

Other peer’s opinions affected the children’s choices of eating or leaving foods during the meals. The presence of peer pressure was noticed by the way the children spoke to each other around the table in other subjects that was not food related i.e. what type of phones or games they have or wanted to buy. This gave the observers another hint that choice of food was not only based on individual taste or likings, but also what was considered to be likable by the majority of the children. This enhanced how the choice of food can also be a way of defining status and belonging to the group as Ludvigsen and Scott (2009) and Bourdieu (1984) assert. Similar interpretation can be done to the reaction that evolved when the children experience amazement to beans being served, where the children count and compare with each other to see who “wins”. These findings were more common among the older pupils than the younger ones. It can be so that the friend’s opinions about food and other things are more important with children in higher ages as Andersson and Nystedt (2006) saw in their study, where the friend’s opinions were more important than those of their families and teachers.

Method discussion

A qualitative ethnographic approach was necessary to complete the purpose with this study, which was to explore reactions and actions at the time of lunch, since these kinds of studies gives the researcher a chance to understand people's thoughts and reactions in their own world (Kullberg, 2004). It would not have been possible to collect these findings with a quantitative approach. The participant observations were a suitable method for this study as it brought more broad data to analyze than with only doing interviews. To do a research on young children can be difficult since they do not have high communication skills as Patel and Davidsson (2003) says and it was important to study the children's natural impulsive acts. It was interesting to see facial expressions and how the children reacted and talked to each other. It would have been interesting to implement accompanied interviews or focus groups with the children to get more thorough information about their views on the meals, but time-wise, that was not possible in this study.

When collecting data, the two researchers divided and spent time with half of the pupils each. This made it possible to study each child and not miss any information or reaction. The sound recording was essential to be able to collect and remember useful data and specific verbal expressions and statements from the children. Even though it was a relatively small group of children, it was clear to us that data collecting is complicated when children are being studied as they are very lively. Elder and peers can have an effect on people's consumption when eating in a group, both negatively and positively. Therefore, there were some concerns regarding if the observers, by participating lunches, would influence the children's eating in any way. This, however, did not seem to have any effect on the pupil's consumption. Neither did it seem like the two teachers' presence at the lunch affected the children's consumption in any way. The children seemed to be uninterested in our preferences and thoughts of the served foods. Neither did the observers express any opinions about the food during the observations to avoid influencing the children's reactions. As Halkier and Jensen (2011) explains, the theory used in analysis allowed us to see that the children's consumption of legumes was a result of their existing food culture together with what was said and practiced by the children in the actual moment.

Sample and recruitment

The school chosen was suitable for the study. It was an independent school i.e. they are not controlled by the municipality, which means that it was easier to recruit the school since the only approval needed was from the headmasters. The researchers did not know any of the children or teachers on beforehand, which was helpful as no earlier relationship would influence the children's reactions and the data production. The recruitment went very easy and the school staff was interested, helpful and thought that it was a fun thing to be a part of the scientific study. We were later told that the school is proud to have their own kitchen and wants to be seen as serving healthy meals made from scratch; this could have helped when the

study was introduced to the headmaster as the researchers presented themselves as students from the health promotion program. If the researchers would not have had a personal contact on the school, maybe the school would not have been as cooperative as they were at the time of recruitment. All the children attending the classes took part in the study as no parents resigned from letting their child participate in the study. Because of a holiday during the second week of study, only half the amount of children attended during observations those days. Nevertheless, the result is considered representative for the total amount of the children.

When planning the altered menu with the chef, there was a conversation regarding how all the meat was to be excluded from the meals and that it ought to be replaced with some sort of legume. During the weeks of the study, meat was discovered in two of the meals anyway, which was a misunderstanding between the chef and the researchers. The pasta carbonara meal was supposed to be exclusive of bacon which it was not, even though it contained much less bacon than usual. Also, the researchers had no knowledge beforehand that the tortellini which was served in the tomato soup with beans contained meat. The children did not react to that some of the meals contained meat as that is normal, so no harm was done.

Ethical aspects

That the participants and school was anonymous in the study was an important thing for the researchers since small children was included. If the study had not been anonymous, and if it would not have been pointed out in the information sheet that was handed out to the parents, maybe some of the parents would not have agreed for their children to be a part of the study (appendix 1). The decision not to give any pre-information about the study to the participating students was a good approach. Most of the children had no idea why the researchers were at the school. However, the teachers had on their own accord taken the initiative to tell the children beforehand that two people would come and see how good a food the chef was making. Nevertheless, there was at least one child that had the perception that they were only to be served vegetarian dishes during the two weeks of study. Why, is unclear. Perhaps her parents or some other adults had given her the information.

Conclusion

In this study the purpose was to investigate the children's response to an increased serving of legumes in the school lunch. We have done a micro-ethnographic field study at an elementary school, where observations were made in the classes one to zero. During a period of two weeks, modified school meals were served.

The findings in this study show the following implications:

- it is possible and uncomplicated to increase the serving of legumes in school meals
- it was not always the legumes that seemed to be dismissed, but the meal as a whole
- lentils was a food that was mostly appreciated by the children
- the beans were more prominent in taste and looks whereas how they are cooked, served and named is determinant for children's acceptance
- the knowledge about legumes was very poor among the children and to be able to use more legumes in school lunches, education about legumes is needed to avoid it being a novel and unfamiliar food for the children
- the younger the children are when being exposed to legumes, the better. Hence, we saw that a child with vegetarian parents and who seemed used to being served and to eat legumes outside the school had a better attitude towards the altered meals
- social norms and peer pressure affected children's choice of food and consumption to some degree

Further studies

The intervention with altered meals could be longer. It would be interesting to do further studies on children of higher age, who have more years of school lunch experiences, to see if they have other expectations and norms regarding school lunches. Also, it would be of value to examine further what meals children appreciate most regarding taste and looks, as well as the result of giving school children more education about legumes.

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GÖTEBORGS UNIVERSITET
INST FÖR KOST- OCH IDROTTSVETENSKAP

Hej, vi är två studenter som läser sista året på programmet Hälsopromotion med inriktning kostvetenskap vid Göteborgs Universitet. Vi skall under våren skriva vår kandidatuppsats, till vilken vi vill samla information hos er på xxx.

Varför ska vi undersöka detta?

Idag rekommenderar Svenska Livsmedelsverket att vi, den svenska befolkningen, bör öka vår konsumtion av frukt, grönt och baljväxter och minska konsumtionen av kött. I och med att vår köttkonsumtion har ökat så har inte bara hälsoproblemen ökat utan även dess negativa inverkan på miljön. För att främja hälsa och för att minska den negativa miljöpåverkan kan en minskad konsumtion av kött och en ökad konsumtion av näringstäta baljväxter leda till en positiv utveckling.

Med anledning av ovanstående information vill vi nu med barnens hjälp utvärdera en förändring av skolmåltiderna på xxx under två veckors tid. Vi kommer i samband med skolmåltiderna prata med några av barnen för att ta reda på deras upplevelser. Då vi går efter de forskningsetiska reglerna så kommer all information att vara anonym, vem som sagt vad o.s.v. och vi som skriver rapporten är de enda som kommer att ta del av rådatan. Vi kommer att ta skriftliga anteckningar men även att spela in samtalen med en bandspelare, då det blir svårt att skriva och observera upplevelser på en och samma gång. Uppsatsen kommer sedan att skrivas på engelska, vilken våran handledare och vår examinator kommer att läsa. Efter att uppsatsen blivit godkänd så kommer den att hamna i Göteborgs Universitets databas där, främst elever, kommer att kunna ta del av den för framtida studier. Då skolmaten kommer att ändras vill vi försäkra er om att utifall ert barn har någon allergi så kommer ett annat alternativ av skolmaten finnas till hands. Alla ändringar sker i samverkan med skolans befintliga kokerska.

Med denna information hoppas vi att ni är lika glada över att ta del av denna undersökning som vi är. Om ni inte vill att erat/era barn ska ta del av utvärderingen och prata med oss så signera bifogad talong och lämna den till ansvarig lärare för insamling.

Tack för er tid! Med vänliga Hälsningar
Moniqa Nilsson och Aimée Wermelin

Vid frågor kan vi nås på: Moniqa xxx@student.gu.se och Aimée xxx@student.gu.se

Mitt/mina barn kommer inte att ta del av utvärderingen av skolmåltiderna under dessa veckor.

Barnets/barnens namn

Underskrift av målsman

School lunch Menu

Week 1

Monday: Pasta Carbonara with broccoli and peas

(Tuesday: Fish file corn flakes breaded, cold lemon sauce and boiled potato)*

Wednesday: Red pepper soup with red lentils and home baked bread

Thursday: Lasagna with salad

(Friday: Holiday)*

Week 2

(Monday: Holiday)*

Tuesday: Tomato soup with white beans and tortellini, home baked focaccia

Wednesday: Patties on kidney with boiled potato and lingon

Thursday: Asian gardener stew with rice

Friday: Tex mex burger with potato wedges

* = Days that was not included in the study.

Observation and interview guide

Attend serving the children the school lunch, join them eating at the dinner table and have the sound recorder on at the table.

Check for facial expressions, body language and listen to what is said during lunchtime.

Knowledge and awareness

- What is today's school lunch?
- What are you eating? -What is in it?
- Have you eaten this meal before? -in school or at home?
- Do you eat any/lots of beans and/or lentils at home?

Taste and preference

- What does it taste like?
- What tasted best? -Why?
- What did you think was less tasty? -Why?
- What did you think about today's school lunch?