

Attitudes towards meat and meat-eating among adolescents in Norway: a qualitative study

Elin Kubberød, Øydis Ueland, Åsne Tronstad and Einar Risvik

MATFORSK, Osloveien 1, N-1430 Ås, Norway

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The aim of this study was to explore the concept of disgust in relation to meat and meat-eating. A sample of 30 high school students (aged 16 to 17 years), 10 urban females, 10 rural females, and 10 rural males, participated in the study. The participants' attitudes towards meat and meat-eating were investigated through interviews of a semi-structured nature and a short, confidential questionnaire. The study showed that disgust was solely related to red meat varieties and not to chicken. There were no vegetarians in our consumer sample, but red meat-eating was more common among males than females. Sensory attributes that were drivers of liking for meat were good taste, good smell and juiciness; these were described by both genders. All the females tended to characterise meat and meat-eating experiences negatively. Their associations were based on disgust, rather than distaste as found among males. Offensive attributes that the females attributed to meat were linked to the animals and their body parts, blood and raw meat, fibrous and chewy texture, fatty feeling in the mouth, and visible fat. Subjects with regular contact with farm animals displayed more relaxed attitudes towards animal production and showed no such disgust reactions. Females also tended to associate meat with "heavy" food that had negative impact on their bodies. They were also less content with their body appearance, dieted more than males, and tended to associate health (in the sense of fat consumption) and food intake to the wish for slim bodies.

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Introduction

Historically red meat has played a central role as a symbol of wealth and higher social classes. Meat is an important provider of protein and iron and considered essential for good health. Therefore, meat generally is considered synonymous with the idea of "proper" food (Lupton, 1996). Red meat, as a high-energy type of food, has for long been considered appropriate for men and symbolises strength, power, and typical values related to the masculine identity (Adams,

1990; Bourdieu, 1984; Lupton, 1996; Twigg, 1983). Chicken, on the contrary, has little fat, appears white, and is associated with the female identity (Lupton, 1996).

Meat is also an example of food that may incorporate negative associations in the Western world today. Despite its high status, meat has connotations of ambivalence due to its link to the living animal, blood (Guzman & Kjærnes, 1998), aggression, and violence (Lupton, 1996). Furthermore, meat is also seen as a potential carrier of dangerous contaminants and may lead to various diseases (Fiddes, 1991). The negative associations related to meat have been further strengthened due to the constant debate around the use of hormones, the emergence of BSE (mad cow disease) in UK in the 1980s, and, more recently, the outbreak of foot-and-mouth disease.

Recent trends show that consumption of red meat is declining among specific consumer segments in the industrial countries. It is well recognised that reduced

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Address correspondence to: Øydis Ueland, MATFORSK, Osloveien 1, N-1430 Ås, Norway.
E-mail: oydis.ueland@matforsk.no

meat-eating, and the negative feelings associated with meat, are strongest among females (Gregory, 1997). Richardson *et al.* (1993) showed that in the UK twice as many married females were semi-vegetarian compared to males, whereas three times as many single females were semi-vegetarian compared to men in the same life situations. Studies, both in the UK and Australia, have shown development towards meatless eating especially among young female women (Santos & Booth, 1996; Worsley & Skrzypiec, 1997, 1998; Kenyon & Barker, 1998). In contrast to the characteristics of pure moral, health and ethical vegetarians, there seem to be more personal and emotional reasons for adapting to meatless eating, one such reason being increased body concern. In fact, findings have shown that adolescent women do not always avoid meat completely, and even though they may refer to themselves as vegetarians, they still eat processed meats (Wright & Howcroft, 1992).

An important characteristic feature concerning meat avoidance is by young females their perception of meat as a fattening food. Some of the females leaning towards meatless eating were concerned about being slim and tended to restrict their energy intake (Ryan, 1997; Worsley & Skrzypiec, 1997).

The physical characteristics of the food such as taste, smell and texture are also important for determining meat rejection. Distaste as motivation for rejection is "sensory-affective" and is solely based on the experience that an object is unpalatable due to negative sensory properties (Rozin & Fallon, 1980, 1987). A negative reaction to blood in meat could also be developed from the idea that its presence can be associated with the slaughtering and death of animals (Elias, 1978; Twigg, 1979). This type of rejection is based on the knowledge of the origin, nature or history of a food; it is an expression of disgust. Disgust encompasses both negative sensory affective and ideational properties, although the latter are not present for distaste (Rozin & Fallon, 1987). With this in mind, Kenyon & Barker (1998) compared vegetarian and non-vegetarian teenage girls with an average age of 17 in their qualitative approach. In this study, meat was considered a negative symbol for the vegetarians; they abhorred the killing of animals, and the sensory characteristics of meat, especially the sight of blood, were experienced as repulsive. Santos and Booth (1996) found that dislike of meat and disgust with "bloody" and "raw" meat were frequently mentioned among meat restrainers and vegetarians as reasons for avoiding flesh foods. Indeed "animalness" is central in the theoretical perspective on disgust because almost all disgusting items are of an animal nature (Rozin & Fallon, 1980, 1987).

Attitudes towards meat among younger consumers have not yet been well explored in Norway. The Norwegians have been relatively unaffected by the dramatic changes in meat consumption found elsewhere in Europe. Lien *et al.* (1998) showed, however, that Norwegian females were, compared to males, more disposed to reduction in meat consumption. In addition, residents in rural areas displayed less negative attitudes towards meat production and were less critical concerning their own meat consumption than people from urban areas. In future, potential meat avoidance by young females could persist through adulthood and later form the food habits of the future generations (Gregory, 1997).

This qualitative study has focused on the exploration of disgust reactions in relation to meat. Our aim was to achieve a better understanding of the motivation for and features of likes, dislikes, and disgust reactions related to different varieties of flesh foods by investigating the cultural meaning of meat and meat production, meat's status and place in the diet, and underlying factors related to body concern. The study used a qualitative approach of a semi-structured nature among young male and female consumers from rural and urban areas.

Method

Subjects

Thirty students at high school level aged 16 to 17, were recruited during the spring of 2000 through direct contact with school officials in the south-eastern part of Norway. The schools selected for the study represented a rural area and an urban area in the suburbs of the capital city. The consumer sample participating in the study consisted of two groups of 10 females from the rural and the urban school, respectively, and one group of 10 males from the rural school. In order to obtain a random sample of adolescents with as much variation in attitudes as possible, no pre-screening of respondents was performed. All the subjects participated voluntarily.

Procedure

The students' attitudes towards meat were explored by interviews of semi-structured nature (Patton, 1990), following an interview guide based on literature studies. The interviewees were allowed to talk as freely as possible about the outlined issues; the interview guide served only as a basic checklist for covering all the relevant topics. Sometimes "cues" were given in order

Table 1. Topics for the interview guide*Associations related to meat*

What is the first thing that comes into your mind when I say “meat”?
 Could you characterise different varieties of meat to me?
 What are the differences and similarities between various types of meat?

Meat consumption: frequency, appropriateness, and vegetarianism

How often do you eat meat?
 Do you see any reason for eating more or less meat?
 What is your opinion concerning vegetarianism? Do you see any arguments for or against vegetarianism?
 When do you eat meat (occasions and appropriateness)?
 How would you characterise the position of meat as a constituent in the Norwegian diet?

Sensory properties, body feel and disgust related to meat

What does meat taste like?
 What does meat smell like?
 Could you describe the texture and mouthfeel when eating meat?
 How do you feel after having eaten meat?

Dieting, weight control and health

If you take a look at the students in the schoolyard, do you see many fat students among them?
 Is dieting normal among your friends?
 Is weight control and body appearance discussed much among your friends?
 What types of food would be appropriate for dieting?
 What foods are considered to be fattening?
 What foods do you consider to be healthy and unhealthy?
 What does a healthy diet consist of?

Animal production

What is your opinion concerning the slaughter of animals?
 What is the first thing that comes to your mind when I say “meat production”?
 Do you ever make any reflections on where the meat comes from?

to facilitate the association process and to help the respondents to express their opinions and attitudes. The questions asked were designed with special emphasis on the topics listed in Table 1. The interview sessions lasted for approximately 1 hour. In addition to recording the sessions on tape, notes were taken. The tape recordings were transcribed and compared to the notes afterwards.

The questions concerning personal and emotional matters, such as dieting and weight control, were phrased in a projective manner (person-projective technique, which allows for the respondents to project thoughts onto other persons, in this case other friends). This was done in order to overcome the limitations of respondents' information hold back and to capture an indirect measure of the consumers' thoughts and attitudes around their own bodies (Supphellen, 2000).

In addition to the interviews a short, confidential questionnaire was included at the end of the interviewing sessions. This was done to validate our perceptions of the respondents' attitudes towards the selected topics, specifically the most sensitive questions concerning

body, weight and dieting. Answering these questions was optional and allowed for multiple choices. In order to obtain a diversified description of consumption of red and white meats, questions about how the respondents would characterise their own consumption of meats were included in the questionnaire.

Interview analysis

The first step in the content analysis included a classification of the data. The data were converted into systematic categories according to convergence (Patton, 1990). The selected categorisation was, as far as possible, based on the themes in the interview guide. The categories were then judged on two criteria: “internal homogeneity” and “external homogeneity”, meaning to which extent the information belongs to which category and to which extent the categories differ and/or are unique (Patton, 1990). The results were obtained by going back and forth between the data and the classification domains to verify the meaningfulness, salience, uniqueness and accuracy of the categories and the information in them.

Results

Interview results

Associations from the interviews related to the selected topics are presented in Tables 2–4. The interview topics are supplemented with figures based on the answers from the questionnaire (Figs 1, 2). Direct quotations in the result chapter are presented in quotation marks.

Associations related to meat

When the respondents talked about “meat”, they referred to it as being only red meat, such as beef. Regardless of gender and place of residence, chicken, other white meats, and processed versions of meat, were never mentioned by any of the respondents as being associated with the term “meat”. Meat cuts defined as entrails (liver, black pudding, and tongue) were declared as totally unacceptable to eat. The associated terms related to meat are listed in Table 2. The attributes described are grouped under positive or negative statements, according to the respondents’ emotional reactions when they discussed meat. Based on belonging, the attributes were utterly classified in appropriate groups, such as “taste” and “texture”.

The respondents seemed to have experience with the existing varieties of meats. However, without prompting, they found it hard to verbalise the origin and differences of the meats. The females, regardless of place of residence, seemed to be less aware of the diversities and their origin, than the males. The main distinction the respondents made between meats was the terms “red” and “white”. When helped by the interviewer, beef, lamb, and pork were mentioned as red meat varieties, whereas chicken was the only meat classified as white. Chicken was perceived to be distinctly different compared to “normal” meats. There was no big difference between rural and urban females regarding knowledge of meats, though lamb was only discussed and seemed quite popular among urban women. The attributes the respondents related to meats are presented in Table 3.

Within the category of red meats, pork was considered as being the most unhealthy and fatty. Lamb was considered healthier and perceived as less fatty compared to beef. Compared to the males, all the females tended to focus more on the aspect “fat”. One female respondent stated: “Pork is the most fattening meat”.

Table 2. Terms associated with meat

Positive	Classification	Negative	Classification
Steak	<i>Food</i>	Living animal*	<i>Personified animal</i>
Taste good	<i>Taste</i>	Beef, horse, lamb, pork*	<i>Personified animal</i>
Juicy	<i>Texture</i>	Red*	<i>Appearance</i>
Good smell (from frying)	<i>Odour</i>	Bloody*	<i>Appearance</i>
		Dry	<i>Texture</i>
		Sticky	<i>Texture</i>
		Bad smell	<i>Odour</i>
		Slimy*	<i>Appearance</i>
		Fatty*	<i>Taste/Mouthfeel</i>
		Fat*	<i>Appearance</i>
		Tough*	<i>Texture</i>
		Liver*	<i>Organ/entrails</i>
		Black pudding*	<i>Organ/entrails</i>
		Tongue*	<i>Organ/entrails</i>

Italicization based on the definition of the researcher.

*Items having offensive properties due to nature of origin (classified as disgust).

Table 3. Terms attributed to red and white meats

Red meat (beef, pork, lamb)	Classification	White meat (chicken)	Classification
Fatty*	<i>Taste/mouthfeel</i>	Healthy	<i>Health</i>
Tough*	<i>Texture</i>	Unsaturated fat	<i>Health</i>
Fat*	<i>Appearance</i>	Food appropriate for dieting	<i>Health</i>
Saturated fat	<i>Health</i>	Neutral flavour	<i>Taste</i>
Unhealthy	<i>Health</i>	Good smell	<i>Odour</i>

Italicization based on the definition of the researcher.

*Items having offensive properties due to nature of origin (classified as disgust).

Meat consumption: frequency, appropriateness, and vegetarianism

There were no respondents who reported themselves to be vegetarian in the study. Regardless of gender and area, all of them consumed meat in one form or another, and reported a consumption frequency of more than 3–4 times per week (including all meat varieties and processed meat).

Steak, lasagne, tacos, kebabs, hamburgers, roasts, and chicken were mentioned as typical foods appropriate for special occasions with the family and when attending parties. Most of the informants liked to eat mixed courses such as pizza, kebab and processed meat (such as hamburgers) when going out with friends, and liked to eat, for example, steak when they went out with their parents to a restaurant. The reported reason for the latter finding was that unless their parents paid for them, steak was too expensive to order. The females also mentioned that they ate steak when going out with their boyfriend.

In the questionnaire the informants were asked to characterise themselves in relation to their meat-eating habits, see Fig. 1.

The results, as presented in Fig. 1, indicated no differences between gender for “eat little meat” or “eat only processed meat”. The biggest gender difference was found for the category “eat white meat preferably”. Forty-five percent of the females reported they preferred white meats, in comparison to 10% of the males. There were also more females who stated that they rarely ate red meat (20%), whereas 40% of the males reported that they ate red meat often. Both genders reported eating a lot of meat. Only females reported preferring vegetables to meat.

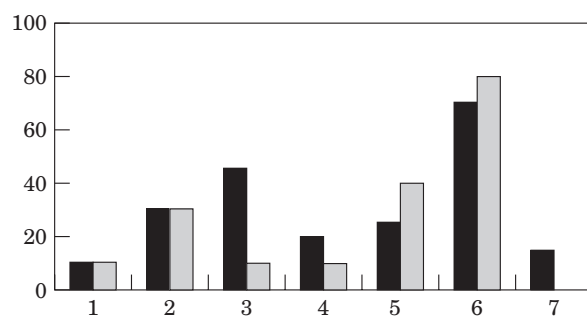


Figure 1. The respondents' characterisation of themselves in relation to their meat-eating habits. Frequencies are presented in percentages. Females, $N = 20$ (■), males, $N = 10$ (□). Note that the question allowed for multiple choices and therefore the percentages do not add precisely up to 100. (1) Eat a little meat; (2) eat only processed meat (e.g. hamburgers); (3) prefer white meat; (4) rarely eat red meat; (5) often eat red meat; (6) eat a lot of meat; (7) prefer vegetables.

Most of the males were quite satisfied with their meat consumption. In fact, one wished to increase his meat consumption because of its tastiness. Only one male mentioned that people usually eat too much meat. The males postulated that meat was an important food in their diet and reported hedonic reasons such as “good taste” to legitimate their consumption.

Females mentioned to a large degree that they felt they consumed meat far too often. Compared to the males, they generally agreed that meat consumption should be reduced and consumption of vegetables increased. Although most of them considered meat to be a natural and important part of Norwegian culture, there was disagreement about the role of meat in their own diet. One of the girls stated “Meat is too important, we actually don't need that much meat in our diet”. Two females would consider shifting to a meatless diet. One mentioned that she felt guilty after eating meat and felt slaughtering was awful. Therefore she preferred to eat more vegetables. Some females stated that they had little influence on the menu because they were still living with their parents. A few of the females would have reduced their meat consumption had they been allowed to, but reported that as long as they were living at home they felt obligated to eat what was on the dinner table. Furthermore, they stated that when leaving home, they would probably reduce their meat consumption. The males on the other hand, expressed no such restraints about eating meat.

The males professed no understanding for vegetarianism. The only reason they came up with as acceptable for vegetarianism was if your religion forbids you to eat meat. Generally they were not especially interested or moved by this subject. A typical male comment was as follows: “I understand that some people take pity on animals, but they have some weird opinions on what is natural”.

The females displayed more sympathy with vegetarianism. One declared that she had been influenced by a female vegetarian friend to eat less meat. Three reasons were mentioned for becoming a vegetarian: inhumane slaughtering practises, feelings of pity for animals, and meat not being considered healthy. The thought of killing animals made meat a disgusting entity for some females. During the discussions, however, it seemed obvious that motives for becoming a vegetarian mainly concerned health reasons.

Sensory properties, body feel and disgust related to meat

Most of the respondents described meat as good and tasteful. Compared to the males, who had few comments beyond that meat tasted good, the females

reported more negative experiences with respect to taste (see also Table 2). Typically, females felt meat was “fatty” and that “one gets fatty residues accumulating around the gums after eating meat and that’s disgusting”. Except for one male who preferred a bloody steak, all the students agreed that steaks should be well done and appear without blood. Several female respondents also claimed that while meat itself did not taste of much, all the accompaniments did. For example, one female mentioned that she could eat hamburgers every day, because of all the “good stuff” served with them. In one of the female groups there was also agreement that a vegetarian hamburger was just as good as the meat alternative.

Regarding texture and mouthfeel, only females described beef as being tough, fibrous and difficult to chew. Meat that felt too hard to chew was considered disgusting, indicating that the disgust response increased as the meat felt more intense in the mouth due to the fibrous texture. On the other hand, due to low chewing resistance, hamburgers and chicken were mentioned as being preferable.

Compared to the males, the females also had strong opinions about the body feel related to consuming meat. Meat was considered to be a “heavy” food and was reported to be hard to digest. After eating red meat they felt full and uncomfortable.

An overview of both positive and negative statements is presented in Table 4.

Dieting, weight control and health

The males stated that to their knowledge no one in their male circle of friends had been dieting. The females reported that many among their female friends dieted, and claimed that many girls were too fat. They also stated that social pressure forced them to be concerned about weight and appearance.

In spite of the intense focus on weight restriction, the female respondents stressed that it was not considered appropriate to reveal that one was dieting or monitoring body weight. One female stated that in social situations it was considerably better to pretend not to be hungry. When the females referred to themselves, they claimed to be satisfied with their own body. One female stated: “It is important to appreciate your body and it is natural to have curves”. While they stressed the importance of this, they later revealed they felt it important to monitor their weight. This was confirmed in the confidential questionnaire (Fig. 2).

According to the results presented in Fig. 2, one third of the females reported that they felt they weighed too much, but none of the males did so. Only females reported frequent dieting, while the males did not. Compared to 65% of the females, all the males reported satisfaction with their weight. Fifty-five percent of the females reported monitoring their weight, whereas about one third of the males did so.

Table 4. Statements given by males and females concerning the aspects of eating meat

	Positive statements	Negative statements
Female	“Meat tastes good” “Meat is a delicacy” “Mutton-and-cabbage stew is actually good” “Meat balls taste good” “Trimmed grilled meat is better”	“Fried meat is not good for you” “Meat tastes of fat” “Meat is boring” “Meat is not slimming” “Pork is disgusting” “Raw meat smells disgusting before you prepare it” “Meat is expensive” “Meat is often disgusting” “Mutton-and-cabbage stew is awful” “Boiled meat is not good” “Steak doesn’t taste of very much but the accompaniments do”
Male	“Food hadn’t been the same without meat” “Meat tastes very good” “Roasted moose smells nice” “Meat is healthy” “Meat contains a lot of good things” “I would very much like to eat more meat” “I eat a lot of fried chicken drumsticks because they taste good, and are cheap and convenient” “Meat constitutes a proper and good dinner” “It is easier to fry meat than to boil cod”	“Meat by itself is not so good” “I don’t like lamb very much” “I hate steaks cooked rare” “Pork is perhaps a little too fatty” “Raw beef sandwich is not so good” “Hamburger is not the ideal meal” “Steak is too expensive”

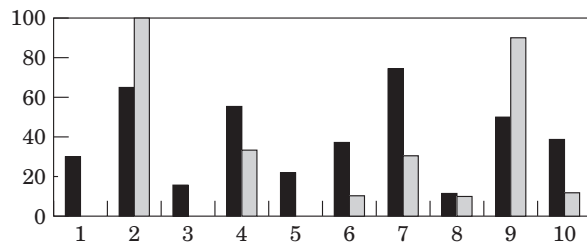


Figure 2. The respondents' body concerns. Females $N=20$ (■), males $N=10$ (□). Note that the questions allowed for multiple choices and therefore the percentages do not add precisely up to 100. (1) Weigh too much; (2) satisfied with weight; (3) often dieting; (4) monitor weight; (5) look too fat; (6) exercise to keep weight down; (7) concerned about what I eat; (8) smoking keeps weight down; (9) satisfied with body shape; (10) eat vegetables when dieting.

Three quarters of the females (73%) also displayed concern about what they ate. A few (both genders) reported that smoking stabilised weight. Most of the males reported satisfaction with their own body shape, compared to 50% of the females. More females were found in the category "prefer to eat vegetables when dieting".

When discussing meat in relation to dieting, one male mentioned that meat should be part of a slimming diet, but there were also respondents who said that white meat was healthier and that one should reduce meat consumption when dieting. Males found identifying appropriate foods for dieting more difficult, but low fat spread and vegetables were mentioned. Generally, they were less concerned about dieting.

The females, on the other hand, were certain that meat was not considered to be part of a slimming diet; it all depended on "what type of meat you consumed", method of preparation and amount. In this respect, chicken was mentioned as being part of such a diet. "Meat is not slimming" and "chicken is healthier, but if you are on a diet, you should not eat meat at all" were typical statements from the females. Although hamburgers were one of their favourite foods, they were felt to be "not good for your health". When mentioning foods for dieting, the female respondents suggested wholewheat bread, rye crispbread, yoghurt, green salad, juice, fruit and vegetables.

In contrast to the females, the male respondents gave the interviewer the impression of not being very particular about or interested in food and health. A healthy diet was associated with fish, meat, cereals, vegetables, dairy products and "low calorie products". A typical statement from this group was "A healthy diet consists of varied and enough food, otherwise you get weak". Females associated a healthy diet with water,

juice, fruit and vegetables. Healthy food was also associated with "low fat" foods.

All respondents agreed that males ate more than females. The males believed that females display higher concern about food and diet and therefore eat less. They also believed that the females are much more concerned about body appearance than they are.

Animal production

Generally, the respondents stated that they felt slaughtering to be a necessary evil. Some of them expressed disgust with the physical act of slaughtering.

There was no particular divergence concerning slaughtering among the males. A typically male statement appearing during the discussion was: "Humans have since the beginning always eaten meat". The males reported that they did not think of the living animal when eating meat. However, two of the males displayed a negative feeling towards slaughtering.

Both female groups expressed concerns towards animals as food, all related to disgust. Some of them felt it was unpleasant to think of the living animal when eating meat. One respondent said that she could not finish her meat if some of the family members started to joke about the origin of the meat on the dinner plate. A few females reported displeasure when preparing and touching raw meat. Several stated that they were generally against locking up and raising animals only to see them get slaughtered later on.

Thinking about the word "meat production" brought up different associations in the groups. One male stated that by growing up on a farm you develop a more "natural" and "realistic" attitude towards raising animals for food. Females thought of the words "animal", "slaughtering", "lots of blood", "beef cattle", "pigs", and "small chickens in narrow cages". They stated that because of the association with a production factory, meat production troubled them. Only females stated that animal production was environmentally wrong and a waste of resources. One female from the urban group suggested cutting down on the animal herds to reduce meat production, and another informant in this group also stated that one could survive without raising animals for food.

The major concern of all the subjects regarding animal production was that they did not trust the industry to handle the animals well, and that, because it was not open to the public, the producers cheated on animal welfare during the slaughtering process. One male respondent stated he did not trust the animals to be handled in a humane way, because "it is always a matter of money". One female believed most farm

animals were handled well at the slaughterhouse, except for battery chickens.

The males generally believed that the animals had a good life on the farm, particularly when they were out-of-door during the summer. The female groups displayed much greater doubt about this. One female mentioned she had heard of many cases of cruelty to animals reported to the authorities.

There were apparent gender differences throughout the discussions regarding this theme, but we found no clear differences between the two female groups. However, there were a few examples from all groups of more relaxed attitudes towards animal production, due to more frequent contact with farm animals. The urban female group included a Lapp, quite used to and relaxed with, raising, slaughtering and eating animals for food.

Discussion

Associations attributed to meat revealed the term “meat” as being associated only with red meat. The attributes associated with chicken were of a more positive character than those related to red meat, which were to a large extent based on disgust.

Sensory properties that were drivers of liking for meat were typically good taste, good smell, and juiciness, and these were mentioned by both genders. Most of the negative features of meat were related to specific sensory attributes of meat, linked to the living animal, and to entrails and organs. The offensiveness refers not only to the concrete characteristics but also to the subjects’ interpretation/conceptualisation of them (Rozin & Fallon, 1987). Sensory drivers of disgust with meat were appearance of fat, difficulties with chewing due to fibrous and tough texture, fatty feeling in the mouth, and the appearance of blood and raw meat. These were described particularly by the female respondents. Parallel results were found in a quantitative follow-up study by Kubberød *et al.* (Note 1). Kenyon & Barker (1998) and Santos & Booth (1996) found disgust with meat among their female respondents due to the emotional reaction to blood by smell and sight.

Our male subjects described their experiences with meat often in dualistic terms, as either “good” or “bad”, for example “taste good” and “taste bad”. The interviewers’ impression was that males actually seemed to enjoy eating meat more than the females did. Any negative reactions to meat among the males seemed to be motivated by sensory factors alone, which is characteristic for distaste (Rozin & Fallon, 1980, 1987). The females were overall more emotionally involved when talking about meat; they were stronger

in their vocabulary when describing what they liked and disliked, and they often used the expression “disgusting” when talking about taste experiences and attributes of meat. The young women’s reactions included, in addition to sensory-affective, also ideological motivations, in contrast to the males’ reactions. They were more concerned and troubled about the slaughtering of animals and did not want to associate the image of the living animal with the steak on the dinner plate. Our study also showed that respondents with regular contact with animals displayed more relaxed attitudes towards animal production, showed no disgust reactions, and justified the necessity of slaughtering animals for food.

Processing or cooking the meat before consumption, removes it from its origins; the loss of redness makes the meat less linked to the living animal (Gregory, 1997). Therefore it may be important to “disguise” the food’s animal nature by removing parts like skin and bones and prepare the meat in a non recognisable form in order to avoid disgust reactions (Rozin & Fallon, 1987). Guzman & Kjærnes (1998) described this as a process of “de-animalisation”. The same reaction applies for entrails and related products, which could be associated with organs and other parts from the animal body, and reminds the respondents of the happy living animal on the farm. For a true vegetarian the thought of eating “your friend” (Twigg, 1983) is repulsive and totally unacceptable. For meat restrainers it is acceptable to eat meat as long as it is reduced to a non-subject, transited and moved away from the personified animal. This theory may give an explanation for why the respondents in our study attributed few negative terms to chicken. Chicken had, in contrast to red meat, few disgust properties, and this could probably come from the fact that chicken may be viewed as a less sentient being. The nature of being less of a personified animal makes chicken easier to eat (Worsley & Skrzypiec, 1998). In this respect hamburgers, as a typical “de-animalised” type of flesh food, were very popular among our respondents.

Also the females tended to focus more on fattiness, specifically the aspect of visible fat in red meat such as pork. Therefore meat was not considered healthy or part of a healthy diet among the females. According to females, a healthy diet consisted of mostly fruit and vegetables. The aspect of meat as fattening was also found among female respondents in related studies (Ryan, 1997; Worsley & Skrzypiec, 1997). In another study by Lupton (1996), red and white meats were referred to as dichotomous terms that were considered unhealthy and healthy, respectively.

The reason for the negative focus on fat in flesh foods may be complicated. First, the negative reaction

to fat could have arisen because of the offensiveness the females experienced with visible fat in red meat, and the unhealthiness of red meat could just as well have been mentioned as an alibi for their disgust with visible fat in meat. Secondly, the females were very concerned about food and health, in the sense of getting too fat. In this respect, Guzman *et al.* (2000) revealed that young people tended to associate health with good looks and slim bodies. The females' body concern could also have been a reason for their intense focus on fattiness in meat. Dieting was shown to be common among the females, but was discussed as a non-legitimate, private activity. Our results further confirm the findings of Guzman *et al.* (2000) and Worsley & Skrzypiec (1997), which suggest that females tend to attach health and food to their own body images. Compared to the more "restricted" females, the males in our study seemed to have a more pragmatic and content view on their own diet and bodies, and displayed no such disgust with or concern for fat in meat. Wesslén (2000) proposed that young females and males might belong to different food cultures, i.e. "hungry boys and slim girls". The results concerning body feel related to meat-eating, support the argument suggesting that females tend to associate meat with "heavy" food having negative effect on their own bodies (Lupton, 1996). A resistance towards bodily incorporation and nausea associated with specific objects is also a characteristic feature of disgust (Rozin & Fallon, 1987).

Both the offensive and unhealthy properties associated with meat could lead to restrictions concerning red meat-eating in the future. Our results showed that females, in contrast to males, displayed a much higher concern for their own meat consumption. They thought of meat as being an overestimated constituent in the Norwegian diet, felt obligated to eat meat, and were troubled by their parents' influence on their dinner habits. Worsley & Skrzypiec (1998) found that pressures by parents to eat meat were common among one-third of the vegetarians in their sample. For these reasons some of the females in our study proposed a change in their diet when leaving home, and this was also concluded by Beardsworth & Keil (1991). Interestingly enough, the males in our study felt no concern or obligations related to their meat-eating. Though the structure of meat-eating was somewhat different for males and females, none of our interviewees were vegetarians. Only females displayed sympathy with vegetarianism; for males, vegetarianism was not an issue of consideration. Males reported eating red meat more frequently than females, and females, to a larger extent, preferred white meat and vegetables. Results from previous studies also reveal that females tend to avoid red meats

more frequently than males do (Santos & Booth, 1996; Worsley & Skrzypiec, 1998).

Taking into account that some gender differences in attitudes and preference could be due to coming from different geographical areas, our results still confirm that disgust with and scepticism related to meat and meat-eating are more common among females. The most striking differences found in attitudes among our subjects were between rather than within genders and applied to both rural and urban females. Fürst (1994) suggested it is more appropriate to talk about "gendered" food rather than foods for different classes of people. She hypothesised that female preference for lighter foods is a general phenomenon. Worsley & Skrzypiec (1998) further found few statistically significant differences between subjects from different socio-economic areas, because meatless eating appealed to the younger females from all socio-economic classes.

Conclusions

The present study has shown that disgust properties only seem to apply to red meat varieties. The respondents also tended to attribute more negative terms to red meat, in contrast to chicken. Attributes and objects having offensive properties were features linked to the animal and parts of the animal, blood and raw meat, texture due to difficulties during chewing, fatty feeling in the mouth, and visible fat. These features were particularly mentioned by all the females. Negative associations that came up in the male group were based on distaste rather than disgust. Respondents with regular contact with farm animals displayed more relaxed attitudes towards animal production and attributed less disgust properties to meat and meat-eating.

Females tended to be concerned both about the way they felt following consumption, and the possible negative impact of meat on appearance. The females had no perception of the nutritional value of meat consumption, and had not foreseen the consequences of excluding red meat from the diet. The results showed that meat still occupies a position as a frequent consumed food for most of the respondents, but the structure of meat-eating was somewhat different for males and females.

The data based on our subjects' attitudes, have produced some interesting results, though our sample is limited. There were clear gender differences throughout the discussions regarding associations of meat, but one should not rule out the possibility that apparent differences due to gender also could have arisen from regional differences in culture. In order to generalise and

explore motivations for disgust-related attribution and rejections, our findings should be further tested in more groups and aggregated data sets. The role of cultural representations should be further explored among adolescent consumers. Additionally, more research involving projective- and stimuli-based techniques is needed.

References

- Adams, C. J. (1990). *The sexual politics of meat*. Cambridge: Polity Press.
- Beardsworth, A. D. & Keil, E. T. (1991). Vegetarianism, veganism and meat avoidance: Recent trends and findings. *British Food Journal* **93**, 19–24.
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. London: Routledge & Kegan Paul Ltd.
- Elias, N. (1978). *The civilizing process – the history of manners*. Oxford: Basil Blackwell.
- Fiddes, N. (1991). *Meat: A natural symbol*. London: Routledge.
- Fürst, E. I. (1994). *Mat- et annet språk. En studie av rasjonalitet, kropp og kvinnelighet belyst med litterære tekster* [Food – another language]. ISO report number 7. Oslo, Norway: Department of Sociology, University of Oslo.
- Gregory, N. G. (1997). Meat, meat eating and vegetarianism. A review of the facts. In *43rd International Congress of Meat Science and Technology*, pp. 68–85. Auckland, New Zealand.
- Guzman, M. A. & Kjærnes, U. (1998). *Humans and animals – A qualitative study*. SIFO report number 6, Lysaker, Norway: The National Institute for Consumer Research.
- Guzman, M. A., Bjørkum, E. & Kjærnes, U. (2000). *Youth meals – A study of food, gender and everyday life*. SIFO report number 6, Lysaker, Norway: The National Institute for Consumer Research.
- Kenyon, P. M. & Barker, M. E. (1998). Attitudes towards meat eating in vegetarian and non-vegetarian teenage girls in England – an ethnographic approach. *Appetite* **30**, 185–198.
- Lien, M. E., Bjørkum, E. & Bye, E. K. (1998). *Meat, changes in attitudes and consumption*. SIFO report number 4, Lysaker, Norway: The National Institute for Consumer Research.
- Lupton, D. (1996). *Food, the body and the self*. London: Sage Publications.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd edition). California: Sage Publications.
- Richardson, N. J., Shepherd, R. & Elliman, N. A. (1993). Current attitudes and future influences on meat consumption in the United Kingdom. *Appetite* **21**, 41–51.
- Rozin, P. & Fallon, A. E. (1980). The psychological categorization of foods and non-foods: A preliminary taxonomy of food rejections. *Appetite* **1**, 193–201.
- Rozin, P. & Fallon, A. E. (1987). A perspective on disgust. *Psychological Review* **94**(1), 23–41.
- Ryan, Y. M. (1997). Meat avoidance and body weight concerns: nutritional implications for teenage girls. *Proceedings of the Nutrition Society* **56**, 519–524.
- Santos, M. L. S. & Booth, D. A. (1996). Influences on meat avoidance among British students. *Appetite* **27**, 197–205.
- Supphellen, M. (2000). Understanding core brand equity: guidelines for in-depth elicitation of brand associations. *International Journal of Market Research* **42**, 319–338.
- Twigg, J. (1979). Food for thought: purity and vegetarianism. *Religion* **9**, 13–35.
- Twigg, J. (1983). Vegetarianism and the meanings of meat. In A. Murcott (ed.), *The sociology of food and eating*, pp. 18–30. Aldershot: Gower.
- Wandel, M., Bugge, A. & Ramn, J. S. (1995). *Change and stability in food habits*. SIFO report number 4, Lysaker, Norway: The National Institute for Consumer Research.
- Wandel, M. (1997). *Food and health. Consumer views and strategies*. SIFO report number 5, Lysaker, Norway: The National Institute for Consumer Research.
- Wesslén, A. (2000). *Teenagers and food*. Doctoral thesis. Uppsala, Sweden: Department of Domestic Sciences, Uppsala University.
- Worsley, A. & Skrzypiec, G. (1997). Teenage vegetarianism: Beauty or the beast? *Nutrition Research* **17**, 391–404.
- Worsley, A. & Skrzypiec, G. (1998). Teenage vegetarianism: Prevalence, social and cognitive factors. *Appetite* **30**, 151–170.
- Wright, G. & Howcroft, N. (1992). *Vegetarianism: an issue of the Nineties*. Bradford, UK: University of Bradford Management Centre.

Reference note

- Kubberød, E., Ueland, Ø., Rødbotten, M., Westad, F. & Risvik, E. (2001). Gender specific preferences and attitudes towards meat. Submitted to *Food Quality and Preference*. A copy of the manuscript may be requested from Øydis Ueland at MATFORSK, Osloveien 1, N-1430 Ås, Norway. E-mail: oydis.ueland@matforsk.no.