

Who wants to eat a happy lamb?

Minor thesis



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October, 2014

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October 2014, Wageningen University

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Thesis code MCB-80427

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Abstract

Most people are meat-eaters. About 90 - 98 percent of the European citizens eat meat. The choice for meat type is influenced by many factors. Animal welfare is a consideration that consumers have to think about when buying a product. It was hypothesised that a high animal welfare increased the willingness to eat. For old animals, it was shown that high animal welfare increased the willingness to eat, but for young animals the hypothesis could not be shown.

Some of the factors influencing the meat choice contain discrepancies. One of these discrepancies is the 'meat-paradox': on the one hand, people love animals, however on the other hand, they also love to eat meat. Categorisation helps to overcome this discrepancy by categorise an animal product as 'meat' and not as 'animal'. It was suggested that recognisability of the animal of origin might influence this categorisation and therefore influences the willingness to eat. However, results show no significant difference in willingness to eat between recognisable and unrecognisable meat products.

Cuteness might also influence the willingness to eat. Cuteness is often defined as 'adorable', 'pleasing to look at', 'sweet' and 'pleasant'. Age-related characteristics probably influence the perception of cuteness. The 'baby schema' describes certain features, often seen in young humans and animals, that are perceived as cute. Cuteness evokes feelings of taking care, which contradicts with the concept of eating meat. Therefore, it was hypothesised that juvenility positively influences the perceived cuteness and perceived cuteness negatively influenced the willingness to eat. Results show that juvenility indeed positively influences the perceived cuteness. However, the perceived cuteness did not negatively influenced the willingness to eat. Although, a difference was found between willingness to eat young animals and willingness to eat old animals.

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1. Introduction

Most people include meat in their diet. The average meat consumption in the Netherlands is about 85 kilograms of meat per person per year (CBS, 2009). This leads to over 556 million slaughtered animals in the Netherlands in 2012 (CBS, 2014). About 90 to 98 percent of the European citizens are meat-eaters. (Chemnitz & Becheva, 2014). Almost all of these people think of animal welfare as an important issue. When forced to think about animal welfare, about three-quarter of the European citizens think that animal welfare has to be improved (European Commission, 2009). Nonetheless, these thoughts do not lead to change in behaviour. Citizens say that they do not agree with the way animals are kept, but remain consuming meat (Poll, Sterrenberg et al., 2001; European Commission, 2009). There are many factors that influence the meat eating behaviour, or carnism, as Melanie Joy calls the belief system that allows people to eat animals (Joy, 2011).

In the Western of Europe and North-America, the process for slaughter is already hidden for the consumer and meat is more neutral and anonymous, like hamburgers. This process insinuates that consumers want to avoid the recognisability of meat (Fresco, 2012).

Many discrepancies influence the choice to consume meat. One of them is the fact that on the one hand, people love animals, however on the other hand, they also love to eat meat. This causes a cognitive dissonance also called the 'meat-paradox' (Bratanova, Loughnan et al., 2011). To overcome this dissonance, the 'meat' and 'animals' are different categories in the consumers perception: the two are mentally separated (Hoogland, de Boer et al., 2005). This means that seeing a cow in the meadow does not immediately lead to thoughts about steak. In combination with mental separation, a change of perception helps to validate the choices made by the consumer. Cuteness of the animal of origin of the meat might also influence the meat consumption, however, no study has been done on this subject.

Perceived capacity to suffer increases and cognitive capacity of the animals decreases when a product is associated with 'meat' more than with 'animals' (Loughnan, Haslam et al., 2010). Because of the mental separation in categories, it might be the case that a consumer does not want to be confronted with the 'animal' while eating meat and prefers an anonymous piece of meat, like a hamburger.

Culture might also influence the meat consumption. For most people it is not normal to consume a piece of meat from a shark that is buried for two months and therefore rots, accompanied by two shots of strong vodka, but in Iceland, this food called *hakarl*, is considered a true delicacy. And as it is normal in most parts of the world to eat horse, in England this is truly not done. (Prescott, 2013) The avoidance of horse meat might have to do with the perception of the animal. In some countries, like England, horses are perceived as companion animals and it is not appropriate to eat companion animals (Ruby & Heine, 2012). Recognisability of the meat might increase these effect. The culture of meat eating is constantly undergoing changes. Meat from organs becomes increasingly popular, while fifty years ago it was seen as food for the poor or disgusting (Fresco, 2012).

Current study will explore various factors that might influence the meat consumption. Animal friendly products are said to be preferred over conventional products (Ingenbleek, Harvey et al., 2013) and therefore, in this research, animal welfare is taken into account as influencing the willingness to eat meat. As mentioned, no study has been done on the effect of cuteness of the animal of origin on the willingness to eat, although this might affect the meat consumption. Therefore, cuteness will be taken into account. Also, recognisability of the meat might be a factor that influences the willingness to eat. Therefore, in this research, recognisability of the meat will also be taken into account.

2. Theoretical background

2.1 Does the consumer want to know where their meat is from?

Animals in industrialized systems are perceived as being unhappy by many consumers (Lassen, Sandøe et al., 2006). But how is animal welfare defined and do consumers actually prefer to consume animals in more animal-friendly systems, that are perceived as more happy? So does animal welfare affect the willingness to eat?

2.1.1 Animal welfare

The commission Brambell (1965) gave a basis to define animal welfare. In 1993, the British Farm Animal Welfare Council -FAWC- further explained this definition to animal welfare in terms of five freedoms, which are still of great influence. These freedoms formed the bases for the minimum European standards, set by the European Union. The five freedoms for animals, defined by the FAWC are: 1) the freedom from hunger and thirst, 2) the freedom from discomfort, 3) the freedom from pain, injury, and disease, 4) the freedom to express normal behavior and 5) the freedom from fear and distress. (FAWC, 1993)

Animal welfare is not a subject that the consumer thinks about, when thinking about food in everyday context (Lassen, Sandøe et al., 2006) and in a retail environment the brain is focussed on doing the groceries as fast and routinely as possible and not on animal welfare (Babin & Darden, 1995). However, a significant amount of consumers feels uncomfortable with the minimum guidelines for animal welfare levels, set by the European Union (de Jonge & van Trijp, 2013a). Research shows that outdoor access, stocking density and day-night rhythm are the most important indicators for the animal welfare perceived by the consumer (de Jonge & van Trijp, 2013b).

The Dutch Animal Welfare organisation developed a three-star-system for products of animals in the Netherlands. This system attempts to clarify to the consumer how animal-friendly the products have been produced. A product can get a label with one to three stars, depending on the production system. (Dierenbescherming, 2014) However, research shows that about two-third of the consumers is not influenced by the presence of a label. Just for one-third of the consumers, a label has added value (de Hek, Immink et al., 2013)

2.1.2 Opinion of the consumer

Consumers associate animal welfare with the living conditions and health of the animal. It seems that it is considered as most important that animals have enough space and the living environment is as comfortable and hygienic as possible. Thereby, it is important to consumers that animals can go outside, stress and animal transport are minimized and the animals are vaccinated against diseases. (Ingenbleek, Binnenkamp et al., 2004)

Consumers use the attribute 'animal welfare' as an indicator of other, to them more important food attributes. In the mind of the consumer, the level of animal welfare can predict attributes like food safety and the impact of the food product on human health. When a product has a high animal welfare level, it is perceived by the consumer as more healthy and more safe. (Harper & Makatouni, 2002)

When the consumer can compare an animal-friendly produced product to a conventional produced product, the animal-friendly product is preferred. When the consumer has to judge the product by itself without any comparison with other products, however, it is hard to do so. Based on single attributes which cannot be compared, the consumer cannot make a well-informed choice (Mata, Lippke et al., 2011).

Consumer interest for animal-friendly produced products is increasing in Europe (Ingenbleek, Harvey et al., 2013) and overall, women are more concerned about animal welfare than men (Gracia & Zeballos, 2011). In 2012, about half of the Dutch citizen were willing to pay extra for an animal-

friendly produced product (FoodforFood, 2012). This increased willingness to pay might also reflect in an increased willingness to eat. It is possible that the preference for animal-friendly produced products is caused by the belief that animal-friendly products are, next to healthier and more safe, also of better quality. Consumers think that animal-friendly produced meat products taste better than conventional produced meat products (Ingenbleek, Binnenkamp et al., 2004). This perceived better taste and higher expected quality might lead to an increased willingness to eat animal friendly products, compared to conventional products.

However, before consumers take into account whether the meat product is animal friendly or not, the product has to satisfy other needs of consumers. Roozen & van der Hoff (2001) formulated a pyramid of needs. In this pyramid it is stated that there has to be enough food available, the food needs to be safe, of good quality and healthy before the consumer considers 'social quality', which covers animal welfare.

2.2 Recognisability of meat

The willingness of the consumer to eat meat partially depends on the categorisation of the meat. Usually, the concepts 'meat' and 'animal' are mentally separated (Hoogland, de Boer et al., 2005). It might be the case that when the consumer recognizes the meat as being an animal, this product is not categorized as being meat, but more as being an animal. When the consumer categorises a product as animal, instead of meat, this can influence the willingness to eat. Therefore, it is possible that the recognisability of the meat negatively influences the willingness to eat, but is this really the case?

2.2.1 Recognisable meat

Examples of recognisable meat are whole chickens or whole fish, which still represent a significant part of the market. However, at the same time processed parts of chickens and fish are being sold, like chicken nuggets, chicken breast, fish fillet or fish fingers. This indicates that consumers are willing to buy recognisable meat at least in case of a chicken or a fish, but there is also demand for unrecognisable pieces of meat. There might be some problems involved in selling pieces of meat with a recognisable animal of origin. When an animal has a -temporary- negative image, sales of recognisable meat for that animal drops. This could be the case when a disease is announced. For example, when Avian Influenza was detected in chickens, it caused sales of all chicken meat to drop. It might be that the effect is stronger for meat products with a recognisable animal of origin, because the consumer is more aware of the origin of the meat they buy in case of recognisable products. (Magdelaine, Spiess et al., 2008)

2.2.2 Disgust

Recognisability of the meat source can also affect the willingness to eat through disgust towards eating the animal of origin of the meat. For example, disgust is felt towards eating recognisable insects. Insects are processed in a large amount of food, and consumers do not have problems with eating them (Dicke, 2010). However, when the insects are recognisable to the consumer, the consumer can experience feelings of disgust towards eating insects (van Huis, van Itterbeek et al., 2013).

Two types of disgust can be experienced: physical disgust and moral disgust. Physical disgust is directed at avoiding diseases, like in eating mouldy food. Moral disgust can be felt when moral norms are violated, for example in child abuse. Eating animals may be associated with moral disgust as it violates the norm not to kill. (Chapman & Anderson, 2013).

2.2.3 Taboo

Taboo on eating a certain piece of meat can also influence the willingness to eat the meat product. Recognisability also plays a role when the animal is 'too good to eat', which mainly means that the animal stands close to the human, like for example dogs do. In many cultures, dogs and cats are not

eaten, because they are seen as pets and stand too close to the human to be eaten (Oh & Jackson, 2011).

To some animals, like pets, human-like characteristics are assigned by people (Archer, 1997). This assignment of human-like characteristics to non-human animals is called anthropomorphism (Horowitz & Bekoff, 2007). Anthropomorphic tendencies can be expressed in several aspects in an animal. Giving names to pets and celebrate the birthday of a pet are examples of anthropomorphic tendencies. (Archer, 1997) When anthropomorphic tendencies are expressed, it is possible that eating animals feels like cannibalism.

When it is clear where the meat is from, eating the meat may lead to feelings of discomfort. The feelings of discomfort can be partially due to the different causes mentioned above. Thereby, cuteness of the animal of origin may also play a role in the willingness to eat meat products, when the animal is recognisable. The concept of 'cuteness' will be further elaborated in the next paragraph.

2.3 Cuteness

Thinking about a cute lamb in the pasture, people tend to say they are not willing to eat the lamb. This might mean that the willingness to eat a meat products might also be influenced when the animal of origin is recognisable and cute. So what is cuteness actually and how might it affect the willingness to eat?

2.3.1 What is cuteness?

To be able to measure whether cuteness influences the willingness to eat, it is important to first define the concept of 'cuteness'. People define cuteness for example as 'pleasing to look at', 'sweet', 'pleasant' and 'adorable'. The perception of cuteness can be influenced by age-related characteristics. Zoologist Konrad Lorenz proposed the concept of the 'baby schema', in which he describes certain physical features that are commonly seen in babies and young animals. When the stimulus of the baby schema is applied, it can evoke the feelings of cuteness. Examples of body features that are included in the baby schema are a small body size with a large head, big eyes, a round face with a protruding forehead and a round and soft body. (Alley, 1981; Luo, Li et al., 2011) When applying the features from Lorenz' baby schema, not only humans and animals can be perceived as cute, even objects can look cute with the baby schema applied. An example of an object with the baby schema is the hammer, shown in figure 1. The hammer with the baby schema applied can be perceived as a more cuter hammer than the hammer without the baby schema applied.



**Figure 1. Left: normal hammer
Right: hammer with baby schema (Stevens, 2012)**

Pittenger, Shaw et al. (1979) found a connection between juvenility and cuteness. When the perceived age of an object is low, the object is often perceived as cute. This does not only apply for humans and animals, as this research shows, but also for other items, like cars or, as mentioned above, for a hammer.

2.3.2 Effect of cuteness

It might be the case that the presence of hormones positively influence on the sensitiveness in cuteness perception. Premenopausal women are more sensitive to variations of cuteness than postmenopausal women and men, because of the influence of hormones that are present. (Sprengelmeyer, Perrett et al., 2009) This difference in sensitiveness to cuteness may lead to a difference in willingness to eat cute animals between men and women. (Glocker, Langleben et al., 2009a)

When cuteness is perceived, dopamine is released. This release of dopamine gives a feeling of pleasure. This results in a feeling of pleasure when cuteness is perceived. (Glocker, Langleben et al., 2009b) Taking care of the cute object is one of the responses that cuteness evokes (Sherman & Haidt, 2011). This might lead to the feeling of preference towards a cute animal, compared to a non-cute animal. However, the feelings of taking care might also lead to feelings of disgust towards eating meat from a cute animal, because the idea of a slaughtered animal contradicts with the feeling of taking care.

2.4 Hypotheses and conceptual model

The willingness to eat meat products is affected by many factors. Animal welfare may be one of them. As mentioned in paragraph 2.1, about three-quarter of the Dutch citizens want an improvement in animal welfare of farm animals (European Commission, 2009). Thereby, about half of the Dutch citizens is willing to pay extra for the products of animals with an higher animal welfare (FoodforFood, 2012). This willingness to pay might also reflect in a willingness to eat meat from an animal that has had high welfare.

Hypothesis 1: Higher animal welfare has a positive effect on the willingness to eat.

Recognisability of the meat might also play a role in the willingness to eat meat products. To be able to test the effect of recognisability, it is important to first test whether the consumer recognises the origin of a product when the product is presented with recognisable cues.

Hypothesis 2: Presentation of the animal as a meat product instead of a recognisable animal product leads to reduced recognisability of the origin of the meat.

When consumers recognise a meat product as being an animal, feelings of discomfort might be felt with eating the product. It is possible that these feelings of discomfort with eating recognisable meat have a negative influence on the willingness to eat.

Hypothesis 3: Recognisability of the animal leads to a decreased willingness to eat.

The perceived cuteness might be influenced by perceived age. Konrad Lorenz introduced the concept of baby schema, in which features that are mostly seen in young people and animals, evokes the feeling of cuteness. (Alley, 1981; Luo, Li et al., 2001)

Hypothesis 4: A more juvenile outlook leads to higher perceived cuteness.

A perceived cute animal evokes the feelings of happiness and taking care. In the case of meat, the animal has been slaughtered. The feeling of taking care contradicts with the image of an animal that is being slaughtered.

Hypothesis 5: Cuteness of the animal of origin of the meat, leads to a decreased willingness to eat.

Whether cuteness is preferred or not, is dependent on the situation (Fenrong, 2010). Meaning, it might be that, in case of a living animal, cute animals are preferred over non-cute animals. However, when the animal is on the plate, cuteness may be avoided and non-cute animals are preferred over cute animals. Recognisability of the animal of origin of the meat as being an animal may play a role in this reversal.

Hypothesis 6: For more cute animals the negative effect of recognisability of the meat on willingness to eat is stronger.

Animal welfare may also influence the perceived cuteness of the animal of origin. The image of lamb that is running in the pasture may evoke more feelings of cuteness than a lamb in a stable. The effect of cuteness might therefore be stronger for animals with a high animal welfare.

Hypothesis 7: Higher level of animal welfare during breeding leads to higher perceived cuteness.

All hypotheses mentioned above, can be schematically drawn into a conceptual model. Figure 2 represents the conceptual model of all hypotheses tested.

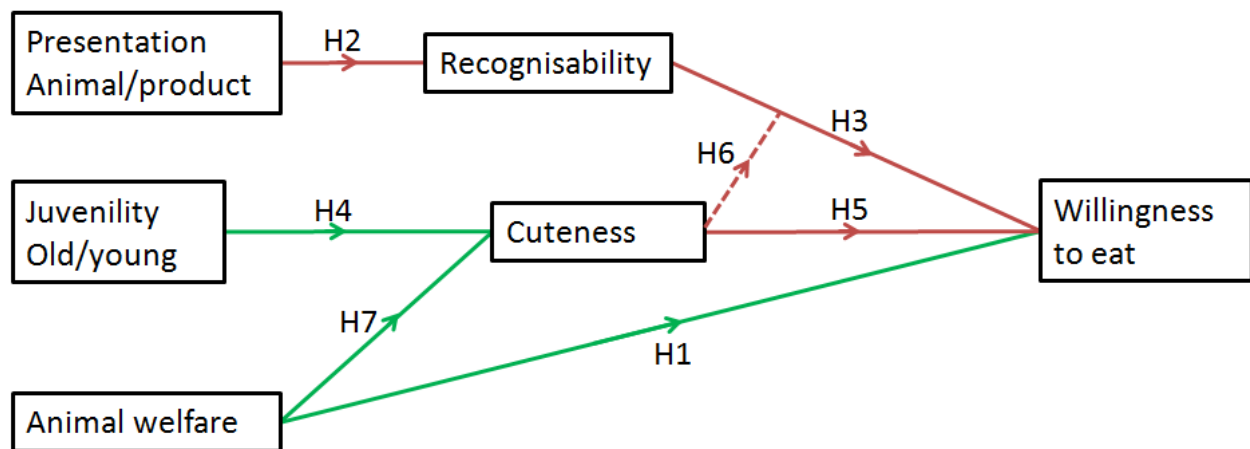


Figure 2. Conceptual model with hypotheses

3. Method

3.1 Participants

The target group of this research were Dutch citizens that eat meat from all ages, both male and female. Figure 3 shows the different treatment groups that were made, 8 different treatment groups were needed in total. Each group contained at least 20 respondents to get a proper power of the tests. To reduce the amount of respondents needed, each respondent was divided into two treatment groups, which halved the amount of respondents that were needed to 80 respondents.

Young	Product	Organic
		Conventional
	Animal	Organic
		Conventional
Old	Product	Organic
		Conventional
	Animal	Organic
		Conventional

Figure 3. Different treatment groups

3.2 Procedure

To test the hypotheses, a minimum of 80 respondents was needed that filled in a questionnaire, which was developed by using survey software Qualtrics. Because the respondents were Dutch citizens, the questionnaire was in Dutch. Each respondent was randomly assigned to one situation for animal welfare and recognisability and answered the questions for these stimuli for both the young and old animal. The stimuli for animal welfare and recognisability were similar for the questions about the young and the old animal for one respondent. The respondents answered the questions on a seven point Likert scale.

The stimuli that a respondent was assigned to, contained different animal species to make the stimuli more different from each other. In total, three animal species were used: a cow or calf, a pig or piglet and a sheep or lamb. This meant that each respondent got the stimuli from two out of three different animal species. The different treatment groups with animal species that a respondent could be assigned to are shown in appendix 1.

3.2.1 Stimuli

Different stimuli had to be offered to the respondents to be able to test all hypotheses. Figure 3 gives an overview of the different stimuli. In the literature it was explained that juvenility has a large effect on perceived cuteness, therefore juvenility was chosen as stimulus to measure cuteness. A young animal represented cuteness, while an old animal represented non-cuteness. The graphics that were used, were selected in a pre-test with 9 respondents, in which respondents chose the most and least cute animals to make the difference between these groups as large as possible.

To test the effect of recognisability, the product was offered to the consumer with or without a picture of the animal. The picture of an animal was the stimulus for recognisability, no picture of an animal was the stimulus for unrecognisability.

Stimuli of conventional and organic products were offered to the respondents to test the effect of animal welfare. This was done by the 'Beter leven label' of the Animal Welfare organization, which is generally known in the Netherlands. To inform the respondents that did not know the 'Beter leven label' and to be sure that each respondent was aware of the label, an explanation with example of a label was given in the introduction of the test. An overview of the different stimuli is given in appendix 2.

3.2.2 Measures

The different factors that needed to be tested, were measured on a seven point Likert scale. No similar test was already existing, so therefore the questions were all developed for this research. Willingness to eat was measured by the question *"How likely is it that you would eat this product?"*. Because, as mentioned in the theoretical background, the willingness to buy also can reflect in the willingness to eat, the question *"If price is not important, how likely is it that you would buy this product?"* was added to measure the willingness to buy.

Recognisability was measured on a Multi-item Scale with three questions: *"The product on the image was for me... (just an animal – just meat)"*, *"The product on the image contained for me... (a recognizable animal product – a general food product)"* and *"The animal of origin was for me... (easy to recognize – hard to recognize)"*.

Perceived cuteness was measured on a Multi-item Scale with four questions: *"How cute was the animal of origin of the product for you? (not cute – cute)"*, *"How cuddly was the animal of origin of the product for you? (not cuddly – cuddly)"*, *"How huggable was the animal of origin of the product for you? (not huggable – huggable)"* and *"How lovable was the animal of origin of the product for you? (not lovable - lovable)"*.

To be able to do proper analysis, several control questions were asked in the end of the questionnaire. For example the opinion of the respondent about the taste and tenderness of the different types of meat in the questionnaire, gender, age and diet were asked, so this could be taken into account in the analysis of the data. The complete test with all questions can be found in appendix 3. The questionnaire is in Dutch, because only Dutch citizens were asked to fill in the questionnaire.

To test whether all questions functioned as intended, a pre-test was conducted among 12 respondents. These respondents filled in the complete questionnaire for four different situations. This pre-test showed no unwanted results.

4. Results

4.1 Preparation

In total, 145 respondents responded to the questionnaire, from which 117 completed the entire test. Just the respondents that completed the entire test were included in the analysis of the data. The dataset was analysed in SPSS. The 28 respondents that did not complete the test, were deleted from the dataset. To be able to do further analysis, variables were recoded. The variables were recoded in conventional/animal friendly, recognisable/unrecognisable and animal species used. Because the respondent was randomly assigned to only two situations, all answers to the same questions were added up to get proper variables per question. With this prepared data, the further analysis could be done.

4.2 Measuring reliability

To be able to test the hypotheses, the questions asked on a multi-item scale had to be combined, if possible. The extent to which the questions had measured the same item, was determined with Cronbach's α . The Cronbach's α had to be at least 0.7 to make reliable combinations. The willingness to eat was measured with two different questions. For young animals, Cronbach's α was 0.937, for old animals 0.921. This means that the two questions that measured willingness to eat could be combined. Recognisability was measured with three different questions. For young animals, Cronbach's α was 0.66, for old animals 0.59. However, when one of the three questions was left out, Cronbach's α dropped in both cases. Therefore, it is chosen to combine the three factors, even though Cronbach's α was below 0.70. Cuteness was measured with four different questions. For young animals, Cronbach's α was 0.941 and for old animals 0.942. These four questions could therefore be combined well. It was also tested whether tenderness and good taste could be combined. For young animals, tenderness and good taste gave a Cronbach's α of 0.423. This means that these two remain separate concepts. For old animals, Cronbach's α was 0.769, which means that the two could be combined. Because for the young animals, however, the two factors had to be treated as different concepts and therefore, the two factors were also not combined for old animals.

4.3 Preliminary analysis

To make proper analysis, it was important that first, the dataset was checked. Tests that were not formulated in hypotheses were conducted. It was checked how the dataset looked like and who the respondents were.

4.3.1 Respondents

From the 117 respondents that responded to the questionnaire, 17 respondents (14.5%) were male and 100 respondents (85.5%) were female. Most respondents were between 21 and 40 years old and the mean age was 32 years old. The exact distribution of the respondents in different age groups can be found in table 1. The questionnaire was set to show all animal combinations equally often, however, some respondents clicked away halfway the questionnaire. This led to an almost equally division of the animal species combination: 34.2% saw the lamb/cow combination, 30.8% the calf/pig combination and 35% the piglet/sheep combination.

Table 1. Distribution of respondents in age groups

	N	Percent (%)
< 20	6	5.1
21 - 40	83	70.9
41 - 60	21	17.9
> 60	6	5.1

Looking at differences between men (N=17) and women (N=100) in cuteness scores (t (DF=115) = -2.12; $P=0.579$), recognisability scores (t (DF=115) = 0.332; $P=0.74$) and willingness to eat (t (DF=115) = 0.98; $P=0.330$), no significant differences were found. Therefore, the differences between men and women were not taken into account in further analysis.

4.3.2 Animal preference

When performing descriptive statistics for young animals, it appears that the mean cuteness was measured as 4.99 (SD 1.60) and the mean scores on willingness to eat 3.51 (SD 1.92). When performing these statistics also for old animals, it seems that the mean cuteness was measured as 3.77 (SD 1.59) and the mean scores on willingness to eat 4.04 (SD 1.87).

When looking at animal species, the willingness to eat of respondents differs among the different animal species. Figure 4 shows which animal is most preferred and which animal is least preferred. The horizontal axis shows the groups and vertical axis shows the scores from the respondents on willingness to eat. It seems that there are differences between the animal species, and between young and old animals.

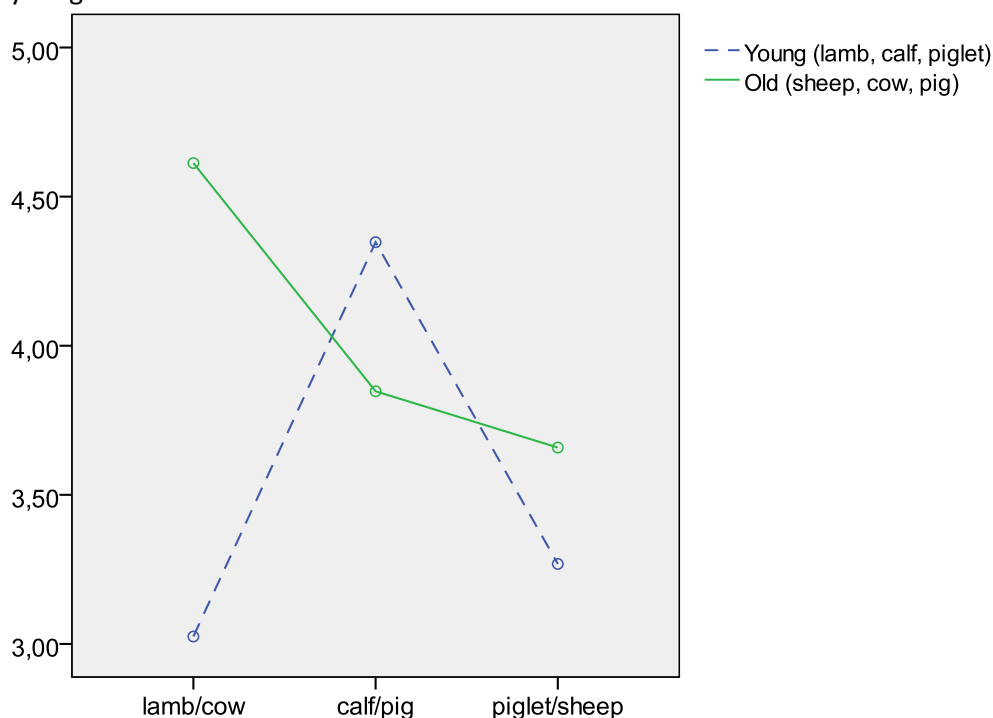


Figure 4. Willingness to eat different animal species

4.4 Hypotheses

All hypotheses mentioned in chapter 2.4 were tested. The first hypothesis that was tested was *Higher animal welfare has a positive effect on the willingness to eat*. To test this hypothesis, a test with repeated measurements was conducted. Willingness to eat for young animals and for old animals were set as the within tested variables, set as the between tested variable was animal friendliness. This test showed that for old animals, respondents had a significant higher willingness to eat for the animal friendly products (F (1, 105) = 9.742; $P=0.002$). For young animals, however, no difference was measured between conventional and animal friendly produced products (F (1, 105) = 0.148; $P=0.701$). This means that, for old animals, it is shown that higher animal welfare has a positive effect on the willingness to eat. For young animals it is not shown that higher animal welfare has a positive effect on the willingness to eat. Therefore, Hypothesis 1 is confirmed for old animals and is not confirmed for young animals. Figure 5 shows these results in a graph. The horizontal axis shows the stimulus: animal friendly or conventional, the vertical axis shows the scores on willingness to eat. Figure 5 shows that the effect of animal friendliness is stronger for old animals than for young animals. This interaction effect is significant with F (1, 105) = 8.701; $P=0.004$.

To test the effect of animal friendliness on the two groups together, a Univariate Analysis of Variance was conducted. A variable, total willingness to eat, was made by adding the scores for willingness to eat for young and old animals up. This variable was set as the dependant variable. Fixed variable was animal friendliness (conventional/animal friendly). The test showed that there was no significant difference in willingness to eat between conventional and animal friendly produced meat products with $F(1, 115) = 2.342$; $P=0.129$).

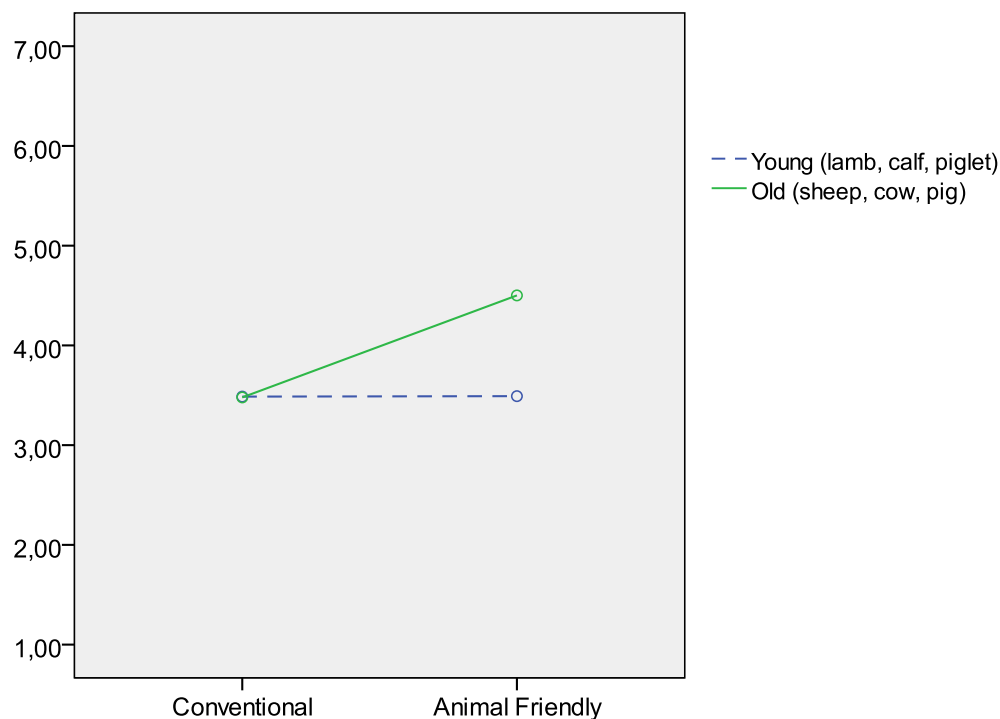


Figure 5. Willingness to eat influenced by animal friendliness (H1)

To test the second hypothesis: *Presentation of the animal as a meat product instead of a recognisable animal product leads to reduced recognisability of the origin of the meat*, an Univariate Analysis of Variance test was conducted. Dependent variable were the recognisability scores respondents gave for young animals, old animals and the sum of the two scores. Fixed variable was the recognisable or unrecognizable stimulus. This test shows that recognisable products got higher scores on recognisability when no distinction is made between young and old animals with $F(1, 115) = 68.66$; $P<0.001$. Thereby, also when the distinction between young and old animals is made, the recognisable products scored higher on recognisability with $F(1,115) = 64.22$; $P<0.001$ for young animals and $F(1,115) = 57.61$; $P<0.001$ for old animals. Therefore it is shown that presentation of the animal as a meat product instead of a recognisable animal product leads to reduced recognisability of the origin of the meat. Means of the scores are shown in table 2, a lower mean score means a more recognisable product. Hypothesis 2 is confirmed.

Table 2. Means of recognisability scores (H2)

	N	Mean	Std. Deviation
Unrecognisable	60	8.9944	2.7041
Recognisable	57	5.4620	1.7904

The third hypothesis: *Recognisability of the animal leads to a decreased willingness to eat* was tested with Linear Regression. Three different tests were conducted: one for the young animals, one for the old animals and one with no distinction between young and old animals. In this tests, willingness to eat for young animals, old animals and the sum of the two were the dependent factors. Independent factors were recognisability –young animals/old animals/sum of the two–, cuteness – young animals/old animals/sum of the two – and animal friendliness. For both the young with $F(3, 113) = 2.212$; $P=0.063$ and the old with $F(3, 113) = 4.491$; $P=0.140$ animals, the measure for recognisability were not significant. When the differences between young and old animals were not taken into account, the recognisability was marginal significant with $F(3, 113) = 3.108$; $P=0.059$. Table 3 shows the test values of the test for the effect for recognisability. It is not shown that recognisability of the animal leads to a decreased willingness to eat. Therefore, hypothesis 3 is not confirmed.

Table 3. Test values effect of recognisability (H3)

	B	Std. Error	Sig.
Young animals	0.224	0.120	0.063
Old animals	0.170	0.114	0.140
Two groups together	0.196	0.103	0.059

A test with repeated measures was conducted to test the fourth hypothesis: *Hypothesis 4: A more juvenile outlook leads to higher perceived cuteness*. In this test, cuteness of old and young animals was tested within subjects. This test showed that juvenility indeed had effect on perceived cuteness ($F(1, 116) = 66.51$; $P<0.001$). Table 4 shows the means of the perceived cuteness for young and old animals. Because the mean perceived cuteness of old animals is significant lower than of young animals, it is shown that a more juvenile outlook leads to higher perceived cuteness. This means that hypothesis 4 can be confirmed.

Table 4. Effect of juvenility on perceived cuteness (H4) N=117

	Mean	Std. Deviation
Young animals	4.989	1.602
Old animals	3.771	1.581

To test the fifth hypothesis: *Cuteness of the animal of origin of the meat, leads to a decreased willingness to eat*, Linear Regression was conducted. Again, three different tests were conducted: one for the young animals, one for the old animals and one with no distinction between young and old animals. In this Linear Regression, willingness to eat – animals/old animals/sum of the two– was the dependent factor. Independent factors were recognisability – animals/old animals/sum of the two–, cuteness – animals/old animals/sum of the two– and animal friendliness. For both the young ($F(3, 113) = 2.212$, $t = -0.102$; $P=0.292$) and the old ($F(3, 113) = 4.491$, $t = -1.037$; $P=0.302$) animals, cuteness had no significant influence. When the total cuteness was taken as test variable, so no difference was made between young and old animals, the results still were not significant with $F(3, 113) = 3.108$; $P=0.198$. Table 5 shows the test values of the test for the effect for recognisability. It is not shown that cuteness of the animal of origin of the meat leads to a decreased willingness to eat. Therefore, hypothesis 5 is not confirmed.

Table 5. Test values effect of cuteness (H5)

	B	Std. Error	Sig.
Young animals	-0.123	0.116	0.292
Old animals	-0.109	0.105	0.302
Two groups together	-0.141	0.109	0.198

Hypothesis 6: *For more cute animals the negative effect of recognisability of the meat on willingness to eat is stronger.* Was tested with Linear Regression. To be able to test this interaction effect, new variables had to be generated. This was done by multiplying the recognisability scores for young animals, old animals and the sum of the two with the cuteness scores for young animals, old animals and the sum of the two. This way, a new variable to measure the interaction effect was created. For the Linear Regression, dependent variable was the willingness to eat –young animals/old animals/sum of the two–. Independent variables were the cuteness scores –young animals/old animals/sum of the two–, recognisability scores –young animals/old animals/sum of the two– and the new generated interaction measure –young animals/old animals/sum of the two–. Results showed that for young animals ($F(3, 113) = 2.21$; $P=0.865$), old animals ($F(3, 113) = 1.26$; $P=0.581$) and in total ($F(3, 113) = 2.278$; $P=0.521$) the interaction effects were not significantly shown. Because there is no significant effect, it can be stated that it is not shown that for more cute animals the negative effect of recognisability of the meat on willingness to eat is stronger. Hypothesis 6 is not confirmed.

The seventh hypothesis: *Higher level of animal welfare during breeding leads to higher perceived cuteness,* was tested with a Univariate Analysis of Variance. Dependent factor was perceived cuteness for young animals, old animals and the sum of the two. The independent factor was animal friendliness. When performing this test, no significance could be found, either in total ($F(1, 115) = 0.129$; $P=0.721$), for young animals ($F(1, 115) = 0.305$; $P=0.555$) or for old animals ($F(1, 115) = 0.001$; $P=0.980$). This means that it is not shown that higher level of animal welfare during breeding leads to higher perceived cuteness. Hypothesis 7 is not confirmed. Table 6 shows the mean levels of cuteness for the two different levels of animal friendliness.

Table 6. Mean levels cuteness in combination with animal friendliness (H7)

		N	Mean	Std. Deviation
Young animals	<i>Conventional</i>	57	4.899	1.501
	<i>Animal friendly</i>	60	5.075	1.700
Old animals	<i>Conventional</i>	57	3.768	1.617
	<i>Animal friendly</i>	60	3.775	1.560
Two groups together	<i>Conventional</i>	57	8.667	2.668
	<i>Animal friendly</i>	60	8.850	2.853

4.5 Other relevant outcomes

When a Paired Samples t-test was performed on the difference in willingness to eat between young animals and old animals, there a significant difference was found with t (DF=116) = -2.80; $P=0.006$. The mean scores for willingness to eat are shown in table 7.

Table 7. Mean scores willingness to eat for young and old animals N=117

	Mean	Std. Deviation
Young	3.52	1.92
Old	4.04	1.87

In the questionnaire, it was asked which study the respondent was studying or had studied. A Independent Samples t-test was conducted to check whether studies in the agricultural sectors had effect on the willingness to eat. From all respondents, 25 respondents were studying in the agricultural sector. However, no significant difference was found with t (DF=115) = 0.21; $P=0.29$. This means that there was no difference found in willingness to eat between animal studies and other studies. Also, when a Linear Regression was conducted in the effect of cuteness and recognisability on willingness to eat, with respondents that studied in the agricultural sector as missing value, still no significant difference was found on cuteness ($F(3, 88) = 2.22$; $P=0.287$) or recognisability ($F(3, 88) = 2.22$; $P=0.097$).

When looking at figure 4, in paragraph 4.4, respondents seem to be willing to eat the calf more than the old pig and sheep. Therefore, it might be that this finding influences the significance of the results. However, when the group with the calf/pig combination is left out in Linear Regression, the results for the effect of cuteness and recognisability on willingness to eat are still not significant with $F(4, 80) = 3.01$; $P=0.793$ for cuteness and $F(4, 80) = 3.01$; $P=0.085$ for recognisability.

When both the calf/pig combination and the Animal Scientists were left out, the findings were still not significant with $F(4, 87) = 1.740$; $P=0.078$ for recognisability and $F(4, 87) = 1.740$; $P=0.341$ for cuteness.

5. Discussion and conclusion

The aim of this study was to investigate whether cuteness of the animal of origin reduces the willingness to eat meat and what effect recognisability of this animal has. It also was investigated whether an animal friendly produced product influences the perception on cuteness and the willingness to eat.

5.1 Animal welfare

Expected was that a higher animal welfare has a positive effect on the willingness to eat (hypothesis 1). The results from this research show that for this hypothesis, there is a difference between young and old animals. For young animals, animal welfare had no effect on the willingness to eat, whilst for old animals, it was shown that higher animal welfare in fact did had a positive effect on the willingness to eat. It could be that animal welfare for young animals did not matter as much to the consumer, because that animal is just for a short time in the production system. An old animal lives for a longer time in the production system, so therefore it could be that, to the consumer, animal welfare is more important for old animals. To get more insight in the background of this theory, it is recommended that a more in depth future research would be done. In this research it could be tested from what age animal welfare becomes more important, why it is important and what will persuade the consumer to buy animal-friendly products.

It was also expected that higher level of animal welfare during breeding leads to higher perceived cuteness (hypothesis 7). However, the results show no difference in perceived cuteness between animal friendly systems or conventional systems. The possible main reason for these findings is that consumers do not think of a happy lamb, running in the pasture, while seeing a three-star 'Beter leven label'. They just see the label and know the animals have had a better life, but do not imagine how this looked like.

5.2 Recognisability

The results show that presentation of the animal as a meat product instead of a recognisable animal product leads to reduced recognisability of the origin of the meat (hypothesis 2). When a meat product is presented with a picture of the animal of origin, the animal of origin is more recognisable for consumers. However, it was not shown that this recognisability of the animal of origin decreases the willingness to eat (hypothesis 3). In the results it is shown that for old animals only, recognisability has no effect. For young animals, the results were marginal significant.

Few factors could influence these results. First, it was thought that students from Animal Sciences, have too much knowledge about animal welfare, and do not represent the average consumer. This could have biased the results. When the same test was conducted, but without the Animal Scientists however, the results still show no significance. The questions could have influenced the results. Cronbach's α showed that there was a connection between the questions that measured reliability, however, this connection was not strong. It might be that the low correlation of the questions has influenced the results.

It is thought that recognisability influences the willingness to eat of the consumer. However, in this study, there are no significant results that can confirm this theory. It might be the case that recognisability does not influence the willingness to eat, despite what is generally thought. It is possible that this result is due to categorization. Consumers probably can distinguish the meat from an animal, because they categorize meat in a retail environment as 'food' and categorize for example a cow or lamb as 'animal'. (Hoogland, de Boer et al., 2005). This insight requires further research to be confirmed. This research could involve an actual in-store research, in which the consumer can choose a recognisable and an unrecognizable meat product in the supermarket. A test like this could confirm the theory.

5.3 Cuteness

It is shown that a more juvenile outlook leads to higher perceived cuteness (hypothesis 4). A young animal is perceived as more cute than an old animal. This is in line with the theory of the 'baby schema' from Konrad Lorenz (Alley, 1981) and the findings of Pittenger, Shaw et al. (1979), who found that when the perceived age of an object, human or in this case animal is low, the animal is perceived as more cute. Thereby it was also stated that cuteness of the animal of origin of the meat, leads to a decreased willingness to eat (hypothesis 5). Though, this effect was not found in this research.

For this statement it also could be, like in recognisability, that students from Animal Sciences had biased the results. However, this was not the case. When the difference in willingness to eat between the young and old group was tested, the effect was significant: respondents were more willing to eat the old animals than the young animals. This suggests that, although it was not pointed out through the effect of the cuteness scores on the willingness to eat, there is a difference in willingness to eat between young animals and old animals. This implicates that juvenility has an effect on willingness to eat, however the effect is not caused by cuteness. Therefore, the effect is probably due to another cause. A topical discussion is the discussion about the fast growing animals, especially in chickens. It could be that consumers are resisting to eat young animals, because they prefer to eat slower growing animals that are a bit older. This could possibly explain the difference in willingness to eat between young and old animals, but the non-significant results in willingness to eat through cuteness. Future research is necessary to be able to confirm this theory.

It was also thought that for more cute animals, the negative effect of recognisability of the meat on willingness to eat would be stronger (hypothesis 6). However, this hypothesis is not confirmed in this research. Like mentioned before, probably a more cute outlook is not the cause of a lower willingness to eat, which also reflects in the confirmation of this hypothesis.

The fact that the respondents always first saw the young animal and the old animal second, might have influenced the results. It could be that the respondents got tired and filled in other answers for the old animal than they would have done when they saw the old animal first. It was chosen to show the young animals first in all cases to limit the number of respondents needed. In future research it is recommended to alternate the age of the animal first shown.

5.4 Other reflection

No difference was found in willingness to eat between men and women, even though in the theoretical background, it was explained that the influence of hormones could lead to a difference in willingness to eat. This result is probably due to the small amount of male respondents that participated in this research. In the selection for respondents, no selection criterion of gender was set, because setting a criterion of gender would increase the amount of respondents needed. If in future research the effect of gender will be studied, it is best to set a selection criterion for respondents gender.

The calf showed other results than the other young animals in willingness to eat. The calf was preferred over the piglet and the lamb, but also over the pig and the sheep. Additionally, the mature cow is by far most preferred old animal. Beef in general was preferred over the other types of meat, probably because of the taste of beef in comparison with the other types of meat. When looking at the effects within the types of meat, so sheep-lamb, pig-piglet and cow-calf, the effects are comparable: the willingness to eat for the old animal is higher than the willingness to eat for the young animal. Nevertheless, the results for the calf could have influenced the results. Therefore, relevant hypotheses were tested without the calf/pig group, but there were no significant results tested without the group. It could be that the results were not significant, because the number of respondents dropped with one third, which decreased the power of the test.

Age might be a factor that has influenced the results. The distribution of respondents in age groups was not equal. About 70 percent of the respondents were 21 – 40 years old. It might be that this age group has other factors that influence the willingness to eat meat than the other age groups. This can for example be due to lifestyle or reproductive hormones (Sprengelmeyer, Perrett et al., 2009). When conducting future research, the respondents should be equally divided over the different age groups to be able to exclude age as a factor of influence.

When looking at the outcomes for hypothesis 3 and hypothesis 5, it can be seen that the results are not significant, but the results are not far from significant. When the same test is conducted, but with four times as much respondents, the standard error would halve. This would make the results more significant. It is recommended therefore, to increase the amount of respondents in future research.

Furthermore, it is recommended to give all respondents just one test group. This would double the amount of respondents needed, but will give the possibility to compare the groups mutually: within meat type and analysis will be less complicated. In this way, odd results like the preference for beef, can better be corrected for.

5.5 Implications

In case of animal welfare, for old animals it is shown that animal friendliness increases the willingness to eat. It is possible for supermarkets to respond to this finding. For example, this can be done by presenting the animal friendly produced products in a clear way, so the consumer can make a thought-out choice between a conventional and animal friendly products. Current labels, like the 'Beter leven label', are not always familiar for consumers: they do not understand what the label means (de Hek, Immink et al., 2013). When consumers better understand the meaning of the labels and the labels are clearly displayed, it is possible that labels influence their choice for meat in the supermarket.

It is not shown that cuteness influences the willingness to eat. Juvenility of the animal of origin, on the other hand, is shown to influence the willingness to eat. This implicates that there is a connection between juvenility of the animal of origin of the meat and willingness to eat, but this connection is not through cuteness. It might be that this outcome is due to bad reputation of the fast growing animals, that are eaten young. Further research is needed to explore the connection between juvenility and willingness to eat.

This research shows no evidence that recognisability of meat decreases the willingness to eat, possibly due to categorization of the meat as 'food', and not as 'animal'. These outcomes can be used in companies, like supermarkets, to create a more transparent market. This research has found no difference in willingness to eat between recognisable meat and unrecognizable meat, which indicates that supermarkets can present their meat more recognisable. When meat is presented more recognisable, this can make the market more transparent. In-store research is needed to confirm this theory.

Despite some limitations, the current research implicates that, in combination with future research, the results from this research can be used to create a more transparent meat market without losing consumer support.

References

- Alley, T. R. (1981) "Head shape and the perception of cuteness." Developmental Psychology **17**(5): 650.
- Archer J. (1997) "Why do people love their pets?" Evol Hum Behav **18**(4):237-259.
- Babin B.J. and Darden W.R. (1995). "Consumer self-regulation in a retail environment." Journal of Retailing **71**(1): 47-70.
- Brambell, R. (1965) Report of the technical committee to enquire into the welfare of animals kept under intensive livestock husbandry systems. Her Majesty's Stationery Office, London, UK.
- Bratanova, B., Laughnan, S., Bastian, B. (2011) "The effect of categorization as food on the perceived moral standing of animals." Appetite **57**(1): 193 – 196.
- CBS (2009) "Nederland eet iets meer kippenvlees." Available from <<http://www.cbs.nl/nr/exeres/9F636E60-5A8D-42B9-9493-C029CD278D62.htm>> Last accessed: 28.08.2014.
- CBS (2014) "Aantal slachtingen en geslacht gewicht per diersoort." Available from <<http://statline.cbs.nl/StatWeb/publication/?VW=T&DM=SLnl&PA=7123SLAC&LA=nl>> Last accessed: 28.08.2014.
- Chapman, H.A. ; Anderson, A.K. (2013) "Things Rank and Gross in Nature: A Review and Synthesis of Moral Disgust." Psychological Bulletin **139**(2): 300-327
- Chemnitz and Becheva (2014) "Meat atlas: facts and figures about the animals we eat." Available from <<http://www.foeeurope.org/meat-atlas>> Last accessed 28.08.2014.
- Dicke, M. (2010) "Why not eat insects?" Available from <http://www.ted.com/talks/marcel_dicke_why_not_eat_insects> Last accessed: 17.07.2014.
- Dierenbescherming (2014) "Over het kenmerk." Available from <<http://beterleven.dierenbescherming.nl/>> Last accessed: 03.09.2014
- European Commission (2009) "Attitudes of EU citizens towards Animal Welfare." Special Eurobarometer **260** (Wave 66.1).
- FAWC (1993) "Report on Priorities for Animal Welfare Research and Development." MAFF Publications, Tolworth, London, UK
- Fenrong, L. (2010) "Von Wright's "The Logic of Preference" revisited." Synthese **175**(1): 69-88.
- FoodforFood (2012) "46% is bereid meer te betalen voor vlees". Available from <<http://www.foodforfood.info/foodmonitor/artikel/46-bereid-meer-te-betalen-voor-diervriendelijk-vlees>> Last accessed: 28.08.2012.
- Fresco, L. (2012) Hamburgers in het paradijs, Prometheus.

- Glocker, M. L., Langleben, D.D., Ruparel, K., Loughhead, J.W., Gur, R.C., Sachser, N. (2009a) "Baby schema in infant faces induces cuteness perception and motivation for caretaking in adults." Ethology **115**(3): 257-263.
- Glocker, M. L., Langleben, D.D., Ruparel, K., Loughhead, J.W., Valdez, J.N., Griffin, M.D., Sachser, N., Gur, R.C. (2009b). "Baby schema modulates the brain reward system in nulliparous women." Proceedings of the National Academy of Sciences **106**(22): 9115-9119.
- Gracia, A. & Zeballos, G. (2011) Animal welfare concern and attitudes towards more animal welfare friendly meat products: characterization and segmentation. ITEA **107** (1): 33-47.
- Harper, G. C. and A. Makatouni (2002) "Consumer perception of organic food production and farm animal welfare." British Food Journal **104**(3/4/5): 287-299.
- de Hek, P.A. , Immink, V.M., Tacken, G.M.L., Ruissen, A., Haaster-de Winter, M.A. van, Meeuwssen, M.J.G. (2013). Kracht van keurmerken : een systematisch inzicht in keurmerken en de beleving door de consument. Den Haag, LEI Wageningen UR
- Hoogland, C.T., de Boer, J., Boersema, J.J. (2005) " Transparency of the meat chain in the light of food culture and history." Appetite **45**(1): 15-23.
- Horowitz AC, Bekoff M. (2007) Naturalizing anthropomorphism: Behavioral prompts to our humanizing of animals. Anthrozoos **20**(1):23-35.
- van Huis, A., van Itterbeek, J., Klunder, H., Mertens, E., Halloran, A., Muir, G., Vantomme, P. (2013) "Edible insects: future prospects for food and feed security." FAO Forestry Paper (FAO).
- Ingenbleek, P.T.M. ; Binnekamp, M. ; van Trijp, J.C.M. ; de Vlieger, J.J. (2004) 'Dierenwelzijn in de markt: Een drieluik van consumenten, retailers en belangeorganisaties in Europa'. Den Haag: LEI.
- Ingenbleek, P.T.M., Harvey, D., Illieski, V., Immink, V.M., de Roest, K., Schmid, O. (2013) "The European Market for Animal-Friendly Products in a Societal Context." Animals **3**(3): 808-829.
- de Jonge, J., and H. C. M. Van Trijp. (2013a) "Meeting heterogeneity in consumer demand for animal welfare: A reflection on existing knowledge and implications for the meat sector. " Agricultural Environmental Ethics **26**(1):629–661.
- de Jonge, J., and H. C. M. Van Trijp. (2013b) "The impact of broiler production system practices on consumer perceptions of animal welfare." Poultry science **92**(12): 3080-95
- Joy, M. (2011) Why we love dogs, eat pigs, and wear cows: an introduction to carnism, Conari Press.
- Lassen, J., Sandøe, P., Forkman, B. (2006) "Happy pigs are dirty!—conflicting perspectives on animal welfare." Livestock Science **103**(3): 221-230.
- Loughnan, S., Haslam, N., Bastian, B.(2010) "The role of meat consumption in the denial of moral status and mind to meat animals." Appetite **55**(1): 156-159.
- Luo, L. Z., Li, H., Lee, K. (2011). "Are children's faces really more appealing than those of adults? Testing the baby schema hypothesis beyond infancy." Journal of Experimental Child Psychology **110**(1): 115-124.

Magdelaine, P., et al. (2008). "Poultry meat consumption trends in Europe." World's Poultry Science Journal **64**(01): 53-64.

Mata, J., Lippke, S., Dieckmann, A., Todd, P.M. (2011) "Meat Label Information: Effects of Separate Versus Conjoint Presentation on Product Evaluation." Journal of Applied Social Psychology **41**(8): 1947-1957.

Oh, M. and J. Jackson (2011) "Animal Rights vs. Cultural Rights: Exploring the Dog Meat Debate in South Korea from a World Polity Perspective." Journal of Intercultural Studies **32**(1): 31-56.

Pittenger, J. B., Shaw, R.E., Mark, L.S. (1979). "Perceptual information for the age level of faces as a higher order invariant of growth." Journal of Experimental Psychology: Human Perception and Performance **5**(3): 478.

Poll, N.E., Sterrenberg, L., te Velde, H.M., Aarts, M.N.C., van Woerkum, C.M.J., Hanning, C., Smink, G.C.J. (2001) Hoe oordelen we over de veehouderij? Rathenau Instituut [host].

Prescott, J. (2013) Taste matters: Why we like the foods we do, Reaktion Books.

Roozen, N. and van der Hoff, F. (2001) Fair trade, het verhaal achter Max Havelaar-koffie, Oké-bananen en Kuyichi-jeans. Van Gennep, Amsterdam.

Ruby, M. B. and S. J. Heine (2012) "Too close to home. Factors predicting meat avoidance." Appetite **59**(1): 47-52.

Sherman, G.D. and Haidt, J. (2011) "Cuteness and disgust: the humanizing and dehumanizing effects of emotion" Emotion Review **3**(3): 245-251.

Stevens, M. (2012) Why are things cute? Available from
<<https://www.youtube.com/watch?v=Z0zConOPZ8Y>> Last accessed: 28.08.2014.

Sprengelmeyer, R., Perrett, D.I., Fagan, E.C., Cornwell, R.E., Lobmaier, J.S., Sprengelmeyer, A., Aasheim, H.B.M., Black, I.M., Cameron, L.M., Crow, S., Milne, N., Rhodes, E.C., Young, A.W. (2009) "The Cutest Little Baby Face A Hormonal Link to Sensitivity to Cuteness in Infant Faces." Psychological Science **20**(2): 149-154.

Appendix 1: Test groups

	Organic	Conventional
Recognisable	1. Ysheep/Ocow 2. Ycow/Opig 3. Ypig/Osheep	4. Ysheep/Ocow 5. Ycow/Opig 6. Ypig/Osheep
Unrecognisable	7. Ysheep/Ocow 8. Ycow/Opig 9. Ypig/Osheep	10. Ysheep/Ocow 11. Ycow/Opig 12. Ypig/Osheep

Y=young O=old

Appendix 2: Stimuli



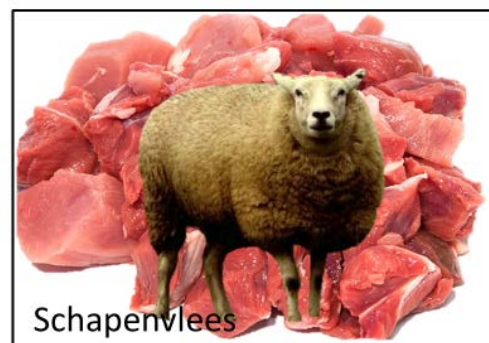
Young, recognisable, organic



Young, recognisable, Conventional



Old, recognisable, organic



Old, recognisable, conventional



Young, unrecognisable, organic



Young, unrecognisable, conventional



Old, unrecognisable, organic



Old, unrecognisable, Conventional



Young, recognisable, organic



Young, recognisable, conventional



Old, recognisable, organic



Old, unrecognisable, conventional



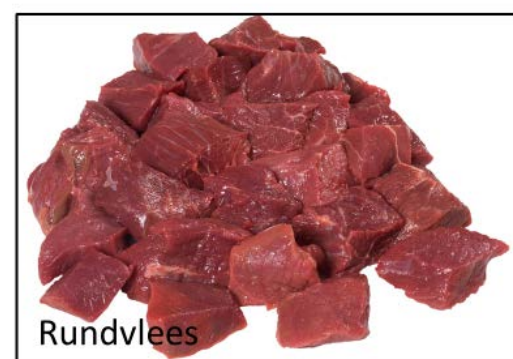
Young (control), unrecognisable, organic



Young (control), unrecognisable, conventional



Old, unrecognisable, organic



Old, unrecognisable, Conventional



Young, recognisable, organic



Young, recognisable, conventional



Old, recognisable, organic



Old, recognisable, conventional



Young, unrecognisable, organic



Young, unrecognisable, conventional



Old, unrecognisable, organic



Old, unrecognisable, conventional

Appendix 3: Questionnaire

Scherf 1

Beste deelnemer,

Allereerst bedankt dat u wilt deelnemen aan dit onderzoek vanuit Wageningen Universiteit. In dit onderzoek zult u een tweetal afbeeldingen zien, waarover uw mening wordt gevraagd. Het is hierbij belangrijk dat u de vragen volledig, zorgvuldig en naar eigen inzicht invult. U kunt deze enquête alleen invullen indien u geen vegetariër bent.

Het onderzoek zal ongeveer 5 minuten duren. Alle gegevens zullen anoniem verwerkt worden en zijn op geen enkele manier terug te herleiden naar de persoon die de enquête invult. Door op de knop 'volgende' te klikken, stemt u in met deelname aan dit onderzoek.

Indien u vragen hebt over dit onderzoek of de resultaten ervan, kunt u een e-mail sturen naar melanie.dekker@wur.nl.

Melanie Dekker

Scherf 2

U krijgt dadelijk een tweetal afbeeldingen te zien waarover vragen worden gesteld.

De afbeeldingen zijn een selectie van een reeks ontwerpen van nieuwe verpakkingen voor vlees in een grote nationale supermarkt.

Een aantal van de verpakkingen in het onderzoek bevatten het 'Beter leven kenmerk' van de Dierenbescherming. Het kan zijn dat u deze te zien krijgt. Hieronder kunt u lezen wat het Beter leven kenmerk inhoudt.

Het Beter leven kenmerk is een label met 1 tot 3 sterren dat op steeds meer verpakkingen van vlees, kip en eieren te vinden is. Het keurmerk garandeert dat het dierenwelzijn hoger dan het wettelijk minimum is geweest. Hoe meer sterren, hoe beter het leven van de dieren is geweest. In het geval van een logo met 3 sterren, is het zeker dat het dier een uitloop naar buiten heeft gehad. Het Beter leven kenmerk is van de Dierenbescherming, die het label door onafhankelijke professionals laat borgen.

(Bron: website Dierenbescherming)

Onderstaande afbeelding is een voorbeeld van een Beter leven kenmerk met 1 ster.



Scherf 3

Plaatje product 1

Scherf 4

(kleine versie afbeelding van het voorgaande scherm)

De volgende vragen gaan over de afbeelding die u zojuist hebt gezien. Kruis voor iedere vraag aan wat u het meest van toepassing vindt.

Hoe graag zou u het product willen eten?

Helemaal niet graag 1 2 3 4 5 6 7 Heel erg graag

Indien u dit product in de supermarkt zou zien, zou u dit kopen, als de prijs geen rol speelt?

Zeker niet 1 2 3 4 5 6 7 Zeker wel

Het product op de afbeelding was voor mij...

Alleen een dier 1 2 3 4 5 6 7 Alleen vlees

Het product op de afbeelding bevatte voor mij...

Een herkenbaar dierlijk product 1 2 3 4 5 6 7 Een algemeen voedingsproduct

Het dier van herkomst was voor mij...

Eenvoudig te herkennen 1 2 3 4 5 6 7 Moeilijk te herkennen

Hoe schattig vond u het dier van herkomst van het product?

Helemaal niet schattig 1 2 3 4 5 6 7 Heel erg schattig

Hoe aaibaar vond u het dier van herkomst van het product?

Helemaal niet aaibaar 1 2 3 4 5 6 7 Heel erg aaibaar

Hoe knuffelbaar vond u het dier van herkomst van het product?

Helemaal niet knuffelbaar 1 2 3 4 5 6 7 Heel erg knuffelbaar

Hoe lief vond u het dier van herkomst van het product?

Lomp 1 2 3 4 5 6 7 Lief

Hoe diervriendelijk denkt u dat dit product is geproduceerd?

Helemaal niet diervriendelijk 1 2 3 4 5 6 7 Heel erg diervriendelijk

Hoe smakelijk ziet het product eruit voor u?

Helemaal niet smakelijk 1 2 3 4 5 6 7 Heel erg smakelijk

Hoe mals denkt u dat dit vlees is?

Helemaal niet mals 1 2 3 4 5 6 7 Heel erg mals

Scherf 5

Plaatje product 2

Scherf 6

Zie scherm 4

Scherf 7

Wat is uw geslacht?

Man Vrouw

Wat is uw leeftijd in jaren?

[open vraag, enkel cijfers invullen mogelijk]

Indien u een studie volgt/heeft gevolgd, welke studie is/was dit?

[open vraag]

Wat vindt u van....

	Helemaal niet lekker	Niet lekker	Neutraal	Lekker	Heel erg lekker
Lamsvlees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schapenvlees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rundvlees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kalfsvlees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Varkensvlees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Volgt u een speciaal dieet waarbij u bepaalde vleessoorten niet eet? Indien u een dieet volgt, vult u in welk dieet u volgt en/of welke vleessoorten u niet eet.

Nee

Ja, namelijk [open ruimte]

Scherf 8

Dit is het einde van deze vragenlijst, bedankt voor uw deelname aan dit onderzoek.