

Department of Agricultural Economics
University of Pisa

Consumer Concerns
about Animal Welfare
and Food Choice
**Italian Report on
Laddering Interviews**

Mara Miele and Vittoria Parisi

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Consumer Concerns about Animal Welfare and the Impact on Food Choice

Italian Report on Laddering Interviews

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Executive Summary

Aims of the ladder interviews

A number of conclusions from the previous phase of the project led to the decision to adopt the means and chains analysis for the following stage:

In the Italian case, greater concern was expressed about calves and hens, more precisely for the crate system for veal production and battery cage for hens. This hierarchy seemed to be affected by the type of information most participant to the focus groups have been exposed like TV programs, media campaigns and especially Animal Rights movements. Among the most interesting factors affecting concern there were pet ownership and “country of origin” as indicator of other quality attributes. Italian consumers are concerned about animal welfare primarily when animal welfare acts as an indicator of other, more important, attributes. This relationship needed to be explored further in order to understand the links between products attributes and the personal consequences that the consumer associated with them and, furthermore, the relevance that these last have in the value system of the consumer.

The ladder interviews have been used to investigate those factors, which determine specific hierarchy of concerns, and the beliefs associated with the equation of ‘good / bad animal welfare implies...’. The ladder interviews presented the opportunity to explore this relationship in detail.

National findings

A sample of 60 participants has been selected by a questionnaire that discriminated consumers according to their attitudes towards animal welfare. The main purpose of the questionnaire was to identify those consumers concerned about animal welfare who had a minimum knowledge of this issue, in order to select a sample of consumers able to carry out the ladder interview.

Interviews had to be carried out in a single city and in Italy all participants were recruited in Florence. Our sample consisted of 46 women and 14 men.

In the Italian interviews the most important value associated with animal welfare is “Ethics”, mentioned by 27 respondents. This value, in the national data, is strongly associated with “Utility”. Other relevant links to the value “Ethics” are the concepts “Suffering” and “Natural”. Therefore it emerges quite clearly that for Italian

consumers the welfare of the animals is linked to a very basic/terminal value “Ethics”, the way in which we should live. The concept of “Ethics” has been mentioned for the battery cage in the case of hen and for the veal crate system. These practices have been defined self-evidently unacceptable and against the common sense idea about “how we should live”.

The second most important value is “Cruelty” (Should not be cruel or violent to animals), mentioned by 23 respondents. This value is strongly associated with the concept “Suffering” and animal suffering is strongly associated with “Slaughter” and “Transport”. Very often the respondents mentioned practices that are perceived as violent or cruel and that are adopted for obtaining some superfluous or unnecessary product characteristic Slaughtering has been mentioned in the case of veal production

The third most often elicited values are “Healthy”, “Natural” and “Young” (young animals should not be eaten).

“Healthy” (a healthy life) is a concept that reflects the relevance that health has for a better life, a life lived at full. It is a value linked mainly to the consequences “Safety”(affect food safety) and “H-Health”(affect human health) and is strongly linked to the attributes “Feed”, “Additives” and “Regulated”(regulated feeding), but also to “Mass”(mass production), “Space”, Light, “Outside”.

“Young” is referred to baby –animals. In the Italian case is almost always referred to lamb and to calves for veal production.

The most often quoted Attribute is “Space” (40 respondents, 66% of the respondents in the sample). This attribute is strongly linked to “Natural” (Natural living conditions) and “QualityL”(animal’s quality of life), but is also linked to a great number of Consequences (Emphaty, Mental, Ahealth, Distress.

Space has been quoted especially for the battery cage and the veal crate system. This attribute has never been associated with products like “prosciutto” (cured ham) and “milk”. On the contrary, pigs for production of ham and cows for production of milk are considered animals with a higher animal welfare than hen and calves or bovine for meat production because they have more freedom of movement (at least in the mind of the consumers).

The second attribute is Feed (27 respondents) which is often mentioned with Additives (21 respondents) and Regulated (14 respondents) and all of them are

strongly linked to Safety (affect food safety) and Hhealth (affect human health), and to the value Healthy (a healthy life).

Other important attributes are “Slaughter” and “Life Span”. The former is linked to consequences “Suffering”(animal suffering) and “Mental” (animal mental stress) and to the value “Cruelty”. Transport is also linked to consequences like “Suffering” and the value “Cruelty”.

Among the 14 consequences we can distinguish 3 more self-interested consequences and 11 consequences for the animals (altruistic). Natural (altruistic) is the most often quoted consequence (33 respondents), and it is followed by “Safety” and H-Health” and Quality of the products (32, 30 and 15 respondents) which are self-interested.

Key demographic findings

Level of formal education and pet ownership seem to be the only socio-demographic variables that discriminate consumers on the issue of animal welfare. For the consumers that have the experience of living with a pet the issue of killing the animals and the suffering of the animals seem to be much higher in their hierarchy of values. The consumers that do not have pet seem to be more oriented towards instrumental values (a healthy life), or more general values, like Ethics.

Also the consumers with different levels of formal education seem to have a different attitude towards animal welfare: going from the lower formal education to the higher a different hierarchy of values and different ladders appear. In the lower formal education group there are only 3 attributes (Space, Feed and Additives) and these attributes lead mainly to functional consequences (Human Health) and instrumental values (Healthy Life). In the higher formal education groups there is the opposite situation: the attributes most often listed are “Slaughter”, “Space”, and “Life-span” which lead to psychological consequences “Mental”, “Distress”, “Suffering” and to terminal values like “Ethics”, “Cruelty”, “Living” and “Natural”. For the other socio-demographic variables there are not relevant differences.

Conclusions

From the ladder interviews and the means-end chain analysis and the previous stages of the research we can draw some conclusions: Italian consumers are not spontaneously addressing the issue of animal welfare in the context of food choice, and the concern for animal welfare is expressed in connection with other food attributes (safety and quality).

Italian consumer are not very knowledgeable about modern rearing systems but in general they are very suspicious. The lack of information about animal farming system is perceived as instrumental for avoiding consumers' criticism.

When consumers are brought to think about this issue, and they are asked to connect it to self-relevant consequences and values, as it happens in the ladder interviews, animal welfare is perceived as affecting some of the most basic values like "Ethics".

There is an acknowledgement that animals have right to "Respect" and that they should not suffer. Widely share is the also the opinion that a low level of animal welfare will have an impact on consumers' health.

Section I

Introduction

This section describes the most relevant information from the previous reports on focus groups discussion and literature review, the objectives of the means and chains analysis and the “ladder interviews”.

1.1 Background

The first report on the Italian Literature Review underlined the limited number of studies conducted in this field, both by public institutions (universities) and private enterprises (food retailing chains). The scarce presence and very recent introduction of ‘animal friendly’ food in the Italian food markets and the minor relevance given to this topic by the mass media, at least up until the time of the BSE scare (1996), was also emphasised.

During the last ten years, there are signs of growing concerns about animal rights and animal welfare issues. This change has been promoted and has intensified the number of campaigns, promoted by Environment or Animal Rights/ Welfare Associations against the commerce of fur coats, zoos and the use of animals in circus shows. The number of public initiatives, with nation wide TV campaigns promoted by the government against dogs' abandonment (typical phenomenon at the beginning of each summer) and dogs' rearing for fights (Pit-Bull) has been a remarkable phenomenon in Italy.

In 1991 the National Government promoted a new national regulation (L. n. 282/91) on stray dogs, cats and pet rearing, which has been followed by several more specific regional regulations on the same matter. In 1993 there has been another important regulation, L. n. 473/93, which modified the article 727 of the Italian Penal Code, and declared that animal mistreatments is a crime punishable as violence towards "living organisms" instead of the previous definition of crime against "human moral".

In the second stage of the project, focus group discussion has been used to investigate the nature of consumer concern about animal welfare and in order to get enough information for the design of the in-depth interviews with consumers. The aim of the focus groups was to determine the nature of consumer concerns about animal welfare

and the impact on food choice both within and between the participating countries. Particularly, the focus groups were meant to understand consumers concerns about animal welfare in the context of food production. In the Italian context, as it is reported in the literature review, this topic has been little investigated and, more remarkably, till very recently, the few studies conducted in this field have shown that there was little concern about animal welfare, generally, and least concern in food production. This qualitative stage of the project aimed to verify whether the consumers concerns about animal welfare had changed, how consumers would express such a concerns and how much it would have an impact in food choice.

The focus group texts were analysed to reveal similarities and differences amongst the different groups of consumers. We elaborated a common a focus group guide with the other partners and we used a video showing the main features of a selected numbers of modern animal rearing systems for promoting the group discussion.

We conducted a series of 4 focus groups. We decided to run 2 focus groups in Florence (middle size city) and 2 in Rome (large city). Given the low level of general interest towards this issue we opted for two cities in order to maximise the chance to have groups with people holding different opinions.

On the whole, the groups expressed similar types and degrees of concern about the production of food. More differences arose from specific discussion of concerns about the production of animals for food. A number of themes were persistent across groups, such as the health benefits and detriments of food, quality and price. Within the groups there was consensus and dispute about the relative importance of each issue. On some issues there was a general agreement where the groups found the process of convergence relatively easy. On other points, and particularly in relation to animal welfare, consensus was less forthcoming. Participants challenged, defended and reconciled their differences through a variety of techniques, which often defined the group dynamic. Indeed, where there was some degree of consensus, such as in the case of spontaneous concerns about health issues, specifically BSE and the use of inappropriate animal feed, the use of growth-promoting hormones and antibiotics, pesticides, preservatives and other additives. The Italian participants expressed great concern about the health of their children and, consequently, the type of food they consumed. Some of the Italian participants believed that country of origin was an important indicator of the type of feed, rearing, and use of antibiotics and hormones.

Where the participants were concerned about production methods and systems, their concern was focused on ‘unhealthy’ and ‘unnatural’ additives, chemicals and growth promoters. They believed that these additives ultimately would affect not only the health of the consumer but also the aesthetic quality and the taste of the product, most notably meat. Consumers invariably used animal welfare as an indicator of other, more important, attributes. Concern for animals was expressed, but was systematically justified through reference to anthropocentric concerns about the human benefits of food and the results of the discussion can be summarised in the following points:

Animal welfare is not a concern spontaneously addressed by consumers when they are asked to talk about issues related to food choice.

Animal welfare is a legitimate area of concerns when is perceived as affecting human health or product’s quality (better taste). Most respondents in the Italian groups tended to consider animal welfare a “luxury” and only a few people dare to express the opinion that animals reared for production have “rights” to better condition of life for their own sake.

The general lack of information provided both by producers, retailers (supermarket chains in particular) and public institutions on the way in which farm animals are reared was very relevant to the respondents. Many of them admitted that the only knowledge about how animals are kept for animal production was the memory of the “traditional farm”.

Most respondents showed interest in the video and showed a high level of concern for the battery cage in egg production and for veal production. The opinion that those systems should be banned was very widely held.

Most people would welcome better condition of life for animals reared for production but expressed a general lack of trust in private enterprises. Many respondents believed that high animal welfare standards in animal production are not a workable option (it is not economically feasible). It has often defined as an “utopia”. As a consequence, they point to the need of changing consumption habits and, more precisely, to the need for a decrease in meat consumption and the other animal products as well, as the only mean to show responsibility and interest for this issue.

The meanings most often associated with animal welfare are “natural condition of life”, “freedom to move and freedom to express natural behaviour”, “space”, “traditional or non-industrial”.

1.2 Aims of the ladder interviews

A number of conclusions from the previous phase of the project led to the decision to adopt the means and chains analysis for the following stage:

There was variation in concern for different species across different countries. In the Italian case, greater concern was expressed about calves and hens, more precisely for the crate system for veal production and battery cage for hens. This hierarchy seemed to be affected by the type of information most participant to the focus groups have been exposed like TV programs, media campaigns and especially Animal Rights movements¹. There was less concern for the milking cows because even the modern system of rearing cows for milking were not considered extremely coercing like the battery cage or the crate system. Among the most interesting factors affecting concern there were pet ownership and “country of origin” as indicator of other quality attributes. Perceptions of responsibility and willingness to pay for animal welfare were related issues, even though the lack of availability of “animal friendly produced products” or “organic products” especially in the two groups in Rome, limited the possibility to investigate the link between attitude and actual behaviour and to estimate the willingness to pay.

The relationship between expressed concerns and actual behaviour needed to be investigated further through a deeper examination of consumer beliefs, habits, choices and other factors, which affect consumption. The external attributions, made by the participants, needed to be examined and evaluated in relation to willingness to pay.

Italian consumers are concerned about animal welfare primarily when animal welfare acts as an indicator of other, more important, attributes. This relationship needed to be explored further in order to understand the links between products attributes and the personal consequences that the consumer associated with them and, furthermore, the relevance that these last have in the value system of the consumer.

¹ Among these last the L.A.V (Anti Vivisection League) has been quite active, more than other organisation. L.A.V. promoted two campaigns in 1998 and 1999: the first on against the veal crate system called “Vitella: carne malata” (*Veal: sick meat*) and another one, in 1999, against the battery

The ladder interviews have been used to investigate those factors, which determine specific hierarchy of concerns, and the beliefs associated with the equation of ‘good / bad animal welfare implies...’ . The ladder interviews presented the opportunity to explore this relationship in detail.

1.3 Means-end chains theory (animal welfare as a product attribute)

Means-end chain theory with its accompanying laddering research technique has been proposed as a new integrated way to study the relations between consumers and products. Very recently this approach, which offers a powerful tool to grasp consumer-perceived quality in products, has been adopted in a number of marketing analyses of food and agricultural products (Audenaert et al 1996; Jan Vanoppen, 1999).

The basic notion of the theory builds on earlier work by psychologists (Tolman 1932; Smith 1954) and economists (Abbott 1955; Norris 1941) who have long recognised that consumers do not want products for their own sake, but for what the product can do for or provide to them (Audenaert et al., 1996:217).

Means-end theory is described by Mulvey and others as:

A means-end chains is a simple knowledge structure that links product attributes to the consequences produced by these attributes (Gutman, 1982). Olson and Reynolds (1983) describe a means-end chain with six levels of attributes, consequences and values, ordered from less to more abstract. (...) A means-end chain is the cognitive representation of the connection between a person’s knowledge about a product (salient attributes and benefits) and their self-knowledge (important psychological and social consequences and values). Thus, the end consequences of some means-end chains can be quite abstract –e.g. a person’s life goals and personal values (Mulvey, M.S and others, 1994:51).

The conceptual model of means-end chain theory specifies that consumers’ subjective knowledge about product categories is stored in associative networks which are organised as means-end chains. As indicated by Mulvey, attributes, consequences and values are key construct of these networks and are hierarchically structured because attributes conduct to consequences which, in turn, bring about value satisfaction. Each of the key constructs may be further dichotomised to allow a more detailed analysis of

cage. In the second campaigns “Hetty”, a gigantic hen walking in the central streets of the main Italian cities and towns carrying a small cage with a “human” inside, which had a certain impact.

consumer knowledge structures: attribute can be concrete and abstract, consequences can be functional and psychological and values can be distinguished in instrumental and terminal. Walker and Olson (1991), quoted in Audenaert et al., (1996:218-219) have suggested that in the six-level means-end chain, the three lower levels (concrete attributes, abstract attributes and functional consequences) comprise the product-knowledge of consumers, while the three higher levels (psychological consequences, instrumental values and terminal values) comprise the self-knowledge of consumers.

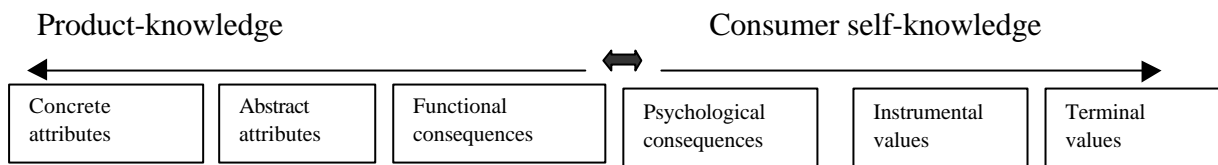


Fig. 1: Means-end chain model, from Audenaert et al., 1996

Concrete attributes are properties of the products that can be sensed (smell, colour, texture, sound, form and so forth). Abstract attributes are properties that cannot be sensed, but still belong to the product (fair trade label, DOP and IGP designation, Organic certification and so forth). Consequences are positive or negative events that the consumer perceives as linked to the product attributes. Functional consequences are directly experienced, while psychological consequences are more personal and less tangible outcomes. Values are intangible, higher-order outcomes or ends and terminal values, according to Peter and Olson (1993), are preferred end-states.

Individual means-end chains can be interrelated and jointly form an associative network. Such a network of interrelated means-end chains is called a hierarchical value map. The hierarchical value map enables the researcher to understand the segmentation of a specific market, and helps in classifying consumers according to the values that are most important to them. Segmentation of the market on the basis of consumers' motivations can also give insights on consumers' requirements and offer guidance for product innovation. These last possible outcomes of the means-end chain analysis represented a priority for this research.

There are two main assumptions in using this theory for investigating the nature of consumer concerns about animal welfare in food choice: the first is that consumers perceive value in a food product to the extent that they believe that the consumption of this product will lead to self-relevant consequences. This means that consumers

exert a reflexive choice in food purchasing and food consumption. The second one is that animal welfare is an abstract attribute of animal based foods.

Section II

Method

This section describes the design of the study, the key elements of laddering technique adopted, the selection of the sample, the collection of the data, the coding of the interviews texts and the analysis carried on with the software LADDERMAP.

Design of the study

Before the 60 ladder interviews we carried out 5 pilot interviews with the aim of testing the recruitment questionnaire and the interview guide, following the guidelines of a training meeting held in Reading for the interviewers.

The recruitment questionnaire aimed at selecting people interested in the subject, such as to guarantee satisfactory and exhaustive interviews. Following this guideline, respondents were selected on the basis of attitudinal statements and they had to be in charge of the family purchasing of food at least at 50%. In this stage of the study, vegetarians were excluded; the respondents should use at least 5 of the following 8 products: beef, chicken, eggs, lamb, milk, pork, veal and ham. People connected with the agricultural sector, residents in non urban areas and those under 25 and over 60 were excluded too.

The age groups under study were the following: 25-29, 30-39, 40-49 e 50-59 years old.

In order to understand the social class of respondents, they were asked which was the job of the family member with the highest income, and whether this job was full time or part time. Consequently, respondents had been classified in the following classes: A/B, C1, C2, D/E. The English classes of reference were converted into the respective classes of income: less than 20 millions, 20-30 millions, 30-50 millions, and over 50 millions. In the Italian case, we decided to consider also the family income since this could highlight the correct social class of the respondent; to this aim, additional questions not included in the questionnaire were asked during the interviews.

Interviews were carried out according the technique of why-questions, and firstly the respondents were asked to rank 8 products of animal origin (7 common to the 5

countries, 1 specific for each country. In Italy the specific product was “prosciutto”, cured ham). The respondents had to classify the products according to their major concern about the rearing method of the animal from which the product originated. To this end, we provided a grid table and 8 cards, one for each product.

At the end of each interview, participants should fill a questionnaire aiming at identifying their lifestyle as well as at collecting useful data for the research. Specifically, the questions concerned the educational level of respondents, the number of children, the vegetarians in the household, the pet animals, the favoured newspapers, magazines and TV programs. Additional questions concerned also food consumption and consumption of the 8 products of animal origin selected for the interviews.

Both the recruitment and the additional questionnaires were designed together with the partner countries.

The laddering technique

Means-end chains are usually measured by a semi-qualitative technique called Laddering (Reynolds and Gutman, 1988). The aims of the laddering technique are the following:

- Identify important products attributes;

Respondents are first asked to describe concrete product characteristics, often by presenting sample of products.

- Use why-questions to elicit the association between attributes-consequences-value;

Once the respondent has named a list of characteristics (both positive and negative) the interviewer start to ask why-questions about the characteristics. The respondent has to indicate his/her preference/concern for each aspect of the characteristics. She/he is then asked “why does this concern you?” or “why do you prefer...” which may lead to the elicitation of an abstract characteristic or a consequence, which is further probed by asking “why is it important to you that....?”. This procedure continues until the level of terminal values is reached or until the respondent declares to be unable to say anything else. This usually generates a limited number of sequences of attributes-consequences-values (ladders) per respondent (for Grunert

some 2-4 each). There are two options: one is called *hard laddering* and it is a technique of conducting the interview that implies a strong control of the interviewer over the respondent in order to keep the answers short and extremely focussed on the topic. The advantage of this technique is that simplify the elaboration and it is easier to identify the split in a ladder (e.g. a split is when from one attribute the respondent lists two consequences which need to be laddered separately). The possible disadvantage is an excessive narrowing of the interview. The second option is called *soft-laddering* and it is a technique of interview in which the respondent is let free to articulate his/her answers with longer sentences. The main risk is to lose focus on the topic and to create too many ladders. All the attributes, consequences and values are then coded in order to catalogue every element in homogenous categories of concepts. At this point the laddering technique implies an elaboration of the coded A-C-V called *implication matrix* that contains information about how often one code (category of concept) followed another.

- Create hierarchical values maps;

The last elaboration of the data is the *hierarchical value map*, which is a graphical representation of the results computed in the implication matrix. The hierarchical value map shows the main means-end chains and all links, beyond a certain cut-off level, in the implication matrix are graphically presented (Grunert, 1995, 172).

- Identify what differentiate a product;

In the hierarchical value map lines link each concept (A-C-V) and the thickness of the lines indicate the number of times that this association has been repeated. Therefore it enables to identify the main associations between products' characteristics and respondents' self-relevant consequences and values. These indications may help understanding the segmentation of the market for a certain product or what differentiate a product from another one.

Selection of participants

A sample of 60 participants has been selected by using the above-mentioned questionnaire (see Appendices). We designed a questionnaire that discriminated consumers according to their attitudes towards animal welfare. The main purpose of the questionnaire was to identify those consumers concerned about animal welfare

who had a minimum knowledge of this issue, in order to select a sample of consumers able to carry out the ladder interview.

Interviews had to be carried out in a single city and in Italy all participants were recruited in Florence. Our sample consisted of 46 women and 14 men. The following table 2.1 summarises the main socio-demographic characteristics of the respondents:

Tab. 2.1 Ladder interviews:

Age			
25-29	30-39	40-49	50-59
7	27	17	9
Income			
Low	Medium	Medium-High	High
10	19	19	12
Educational level			
Low	Medium	Medium-High	High
12	20	9	19
Children			
No	Yes		
23	37		
Pets			
No	Yes		
25	35		
Lifestyle			
1	2	3	
7	27	26	
Consumption			
High	Low	Medium	
1	9	50	
Concern			
High	Low		
50	10		

Educational level:

Junior school=L

High school=M

Diploma , short -laurea =MH

Laurea, Master, doctoral degree, etc.=H

Income:

<20 millions=L

20-30 millions=M

30-50 millions=MH

>50 millions=H

Lifestyle:

1=He/she buys always organic eggs

2=He/she buys organic eggs sometimes or often

3=He/she never buys organic eggs.

As illustrated by the above table, the most represented age group was the 30-39, probably because this was the one that more easily passed the recruitment questionnaire. In fact, there had been some difficulties in recruiting the highest age groups. More than half participants had children (37 against 27) and pet animals (35 against 25). It is interesting to note that the majority of respondents is included in the category of intermediate consumers and only one participant in the “high consumption” one; 50 respondents out of 60 are included in the category “high concern”. Moreover, it is necessary to remember that almost all participants answered “I disagree strongly” to the statement “I trust the government to prevent the cruelty to animals in food production”, owing to the well-known mistrust of Italians towards their public institutions.

Finally, the statement “I actively look for food produced with high levels of animal welfare” caused much perplexity, since these kinds of products are scarcely available on the Italian market.

As to the data analysed through the program Laddermap, only the purchasing of organic eggs was taken under consideration, due to the technical problems of the program that make it impossible to use several codes at the same time. In the Italian case, however, the choice of organic eggs has proved to be not much proficient. It would have been much more significant to choose the purchasing of fruit or vegetables, since the organic eggs are still scarcely available and information about them is lacking. Often the respondents did not even understand the difference between organically produced eggs, those produced in a family farm and those coming from free-range chicken.

2.4 Data collection

As already mentioned, the interviews were carried out in Florence. The average interview lasted half an hour. This relatively short time was due to both the specific choice of a hard laddering method and to the evident scarce information of the respondents about the rearing methods of the animals originating the 8 sample products. Respondents, however, showed a keen interest for the interviews and often, during the debriefing that aimed to collect further data, they asked to be informed about the final results of our research.

Moreover, they lamented the scarce information on the issue of the animal welfare coming from both mass media and Italian authorities. Still on the issue of information,

the card that most often ranked first was the chicken, since this was the only animal about whose rearing methods the respondents were more informed.

Nonetheless, it is significant that nobody knew that the production of chicken and eggs originates from two different systems. On the contrary, the general opinion was that both products are obtained from a same animal. The card ranking second most often refers to veal and the concern about hormones, whilst eggs, milk and ham score often in the last positions. Cured ham (prosciutto) in particular is considered as a separate product and is never connected with the issues about animal welfare, even when concern about pork had been expressed.

As to the questionnaire proposed after each interview, two main features are to be noted. First, even consumers that buy organic food regularly are scarcely informed about organic food from animal origin (eggs and particularly meat) and/or they confuse organic and free-range produced eggs, as well as organic meat and meat coming from extensively bred animals. Secondly, most respondents are included in the category of medium consumers, and only one person is classified as high consumer.

2.5 Coding

Coding of interviews followed the analysis of the laddering technique: first, we identified the ladders by classifying attributes, consequences and values. Therefore we developed a set of codes able to comprehend all the concepts included in these attributes, consequences and values. Two different interviewers carried out the classifying process. In a meeting of the partner countries the different national coding were made uniform and the reliability test was carried out. Therefore, all the national ladders were coded again. In the Italian case, 86 codes had been used out of a total 112.

Analysis and Laddermap

In order to obtain a balance between quantitative validity and aesthetic of the map, for the national data, we decided to use a cut-off point 3.2, the closest we could edit to 5% of the sample size². This cut-off point produced a map representing the concepts (A-C-V) mentioned at least by 3 respondents of the 60 in the sample.

² As suggested in the laddermap instruction.

With a cutoff point 3.2, given the high number of ladders in the dataset, 47% of the total links is the maximum percentage of links it is possible to edit and print.

From this map we identified the main concepts listed by the respondent: 10 Attributes, 14 Consequences and 12 Values.

We decided to produce separate maps for each socio-demographic category in the sample (see tab. 2.1) in order to check if we could find some relevant difference in the A-C-V listed or in the associations between A-C and C-V.

We elaborated separate maps for each class of the socio-demographic code and we combined a series of codes: education and age; education and pet ownership.

The sub-samples of the socio-demographic codes were different in size. For the less numerous we adopted a cut-off point of 2.

Section III

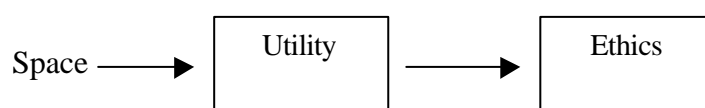
Results

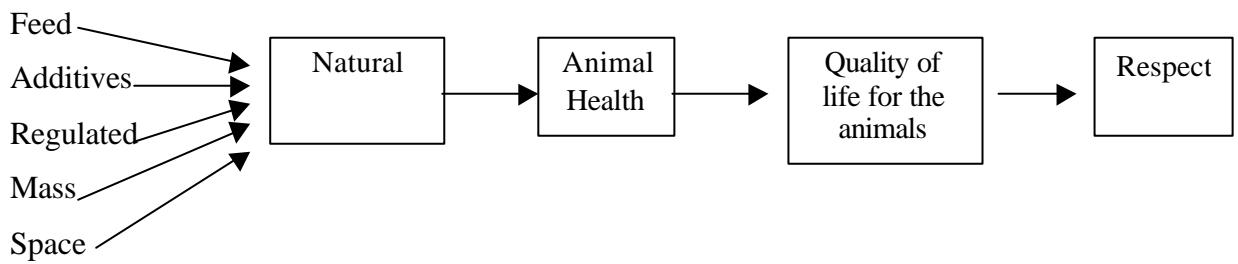
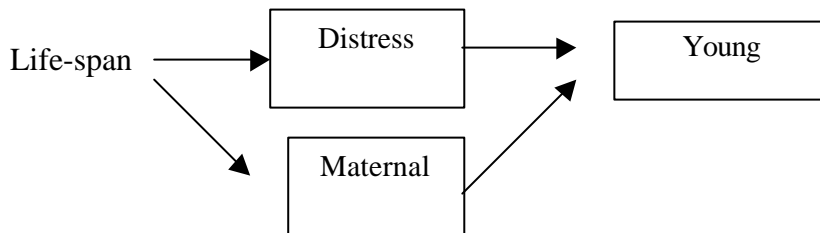
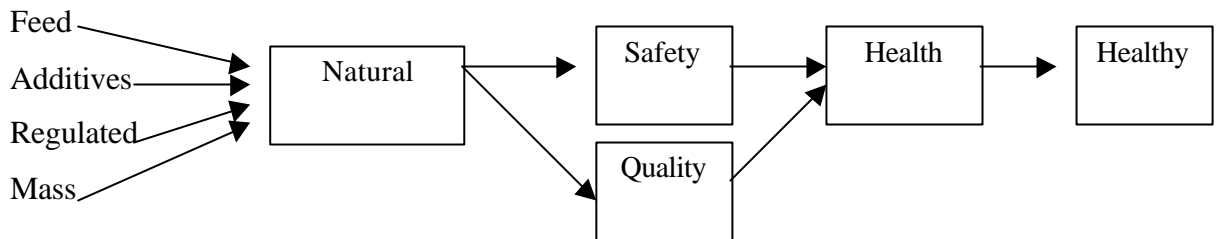
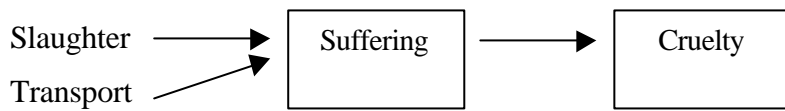
This section describes the most relevant information from the means and chains analysis and the “ladder interviews”. Results are presented by illustrating the main findings from the national sample, and the most relevant socio-demographic variables.

National findings

The data of hierarchical value map of the national sample (map.1) show that there are 10 Attributes, 14 Consequences and 12 Values that have been listed at least by 4 respondents of the 60 in total (tab. 3.1). In map. 2, a HVM of the national sample with cut-off point 5 (that presents the A-C-V listed by a minimum of 6 respondents) the same main ladders are better identifiable.

The percentage of links represented in the map.1 is 47%, but it is already possible to identify the main links and the more important ladders.





In tab. 3.1 all the Attributes, Consequences and Values presented in the HVM n.1 are ordered by rank (rank=1 most often elicited A-C-V; rank=2 second most often elicited A-C-V and so forth).

Tab. 3.1 Attribute, Consequences and Value in the Italian sample.

CODE	N. OF PEOPLE	RANK	LADDER NAME	DEFINITION
A6	40	1	Space	Use in battery egg production, crate, cage, pen or box. Lack of space per animal Especially for chicken
A2	27	2	Feed	Refers to unnatural diet and 'unnatural' substances in feed like animal-meal in cows diet, dioxins in chickens' feed, nutritional adequacy of the diet.
A11	25	3	Lifespan	Especially in relation to veal and lamb. The animal is killed very young or they are kept in production very long.
A23	23	4	Slaughter	As perceived to occur in the production of veal Quick and painless method of slaughter
A1	21	5	Additives	Use of antibiotics and hormones, synthetic chemicals.
A5	14	6	Light	Exposure to artificial light and day cycles, lack of natural light. Kept in the dark.
A3	13	7	Regulated	Continuous feeding or regulated feeding like hens in battery cage that stay in continuous light for eating constantly for higher eggs production; fattening of pigs, force feeding.
A13	12	8	Mass	Large scale \intensive production, factory farming, animals as machines, conveyer belts
A26	11	9	Transport	Transportation conditions
A4	9	10	Outside	Freedom of access to outside. Access to fresh air, kept inside, free range.
C1	33	1	Natural	Housing, feeding and transport conditions that restrict animals' natural behaviour. Control over animal's conditions, e.g. feeding, reproduction, movement. Conditions lead to animal being treated as a machine in a system of production, neglects animals' needs. In the definition they have to mention natural or normal behaviour or un-natural or abnormal behaviour or animals' lack of control over their behaviour.

C27	32	2	Safety	Affects food safety and nutritional quality. It refers only to food: Antibiotics, hormones, other chemicals and animal stress results in disease passed through food chain Disease passes from animal to their meat to the consumer Intensive production leads to treatment of animals, the drugs affect the meat and are passed down to consumers. Poor quality meat (increased fat, lower nutritional content) leads to poor health
C28	30	3	Hhealth	Lack of food safety leads to illness in humans e.g. salmonella, e-coli, CJD, etc. allergies
C6	23	4	Quality	Standards of life and living conditions of animals
C11	19	5	Suffering	Animals suffer because of their conditions, animals are in pain.
C19	16	6	Distress	Consumers feel distressed by certain practices and conditions, they are sad, unhappy and upset and feel pity. Consumers feel dejected by certain practices and conditions
C9	15	7	Utility	Primary purpose of animals, Economic exploitation of animals.
C14	15	7	Ahealth	E.g. physical effects injuries, physical suffering.
C32	15	7	Quality	Anything that affects quality of food in terms of taste, texture, smell (e.g. Additives and animal stress)
C22	9	8	Maternal	Leads mothers to feel concern about the slaughter of young animals, especially veal
C2	8	9	Outside	Outside access (inc. sunlight, freedom to roam & exercise) inherent to animal's welfare

C4	8	9	Humane	Slow and painful slaughter or living conditions
C21	8	9	Empathy	Identifying yourself with the animals experience. (If I were in that position I would suffer; anthropomorphism).
V18	27	1	Ethics	Right thing to do, fairness e.g. 'intensive production is not right'
V15	23	2	Cruelty	Shouldn't be violent or cruel to animals
V5	20	3	Young	Veal (and in some cases lamb) should not be killed so young, should be kept with their mothers and weaned
V8	20	3	Natural	Animals should live, feed and move naturally – the way they are intended to, without constraint or control. They have to mention natural, normal, proper, or equivalent.
V19	20	3	Healthy	People value their health because they want to live long, not suffer and have a good quality of life
V4	18	4	Living	They are living creatures should be respect as such.
V1	17	5	Care	Animals should be well cared for so that they are physically and mentally healthy, treat them well, being kind.
V6	16	6	Respect	They have to say the word respect.
V7	13	7	Utility	Should not be born just to produce food or whatever humans need.
V21	13	7	What-eat	Healthy animals produce good quality meat which is good for the health of consumers
V24	13	7	Qualfood	People should eat less (better quality) food rather than more (lower quality) food
V17	8	8	Humane	Has to be mentioned, otherwise is V15.

3.2 Age

Map Age 1 (25-39 years old), n=34, Cut-Off Point 5

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (n22)	QualityL (n13)		
Space (n22)			Living (n11)
Space (n22)	Suffering (n11)		Cruelty (n12)
Mass (n8)	Natural (n19)	QualityF (n10)	
Maternal (n12)	Humane (n8)		
Additives (n9)			Healthy (n13)
Feed (n13)	Safety (n15)	Hhealth (n19)	Healthy (n13)
Lifespan (n12)			Young (n14)
Lifespan (n12)	Maternal (n6)		Young (n14)

Map Age 2 (40-60 years old), n=26, Cut-off Point 5

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Lifespan (13)	Natural (13)		Young (7)
Lifespan (13)			Ethics (15)
Space (17)			Respect (8)
Space (17)			Natural (11)
Space (17)			Ethics (15)
Slaughter (11)	Suffering (8)		Cruelty (11)
Feed (15)	Safety (16)	Hhealth (11)	Healthy (7)
Additives (12)	Safety (16)		What-eat (5)
	Quality (10)		Respect (8)
	Utility (5)		Ethics (15)

The ladders in the two age groups (younger=age1; older=age2) are very similar and the hierarchy of values is similar. The only difference is the ladder “Space-Ethics” that is very strong the group of the older consumers and it does not appear in the group of younger ones.

3.3 Social Class

Map Social Class 1 (ABC1; Whelthier), n=30, Cut Point 5

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (18)	Quality (12)		
Feed (18)	Ahealth (8)		
Feed (18)	Safety (18)	Hhealth (17)	Healthy (8)
Additives (11)		Hhealth (17)	Healthy(8)
Slaughter (14)	Suffering (11)		Cruelty (10)
Lifespan (13)			Young (12)
	Distress (9)		Young (12)

Map Social Class 2 (C2DE), n=30, Cut Point 5

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (21)	Quality(11)		
Space (21)			Natural (11)
Space (21)			Ethics (14)
	Natural (20)		Natural (11)
	Natural (20)		Ethics (14)
	Suffering		Cruelty (13)
Feed (10)	Hhealth (13)		Healthy (12)
Additives (10)	Safety (13)		Healthy (12)
Lifespan (12)			Young (9)

The attribute most often mentioned is “Space” for both social-class. The same ladders appear, the only difference is that for the second group (lower income) the most important value is “Ethics” and in the first group this value does not appear. The other important values are the same: Cruelty, Healthy and Young.

3.4 Formal Education

Map education 1 (Obligatory school), n= 14, Cut-off point 3

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (n9)	QualityL (n7)		Natural (n6)
Space (n9)			Healthy (n3)
Additives (n8)	Hhealth (n5)		What-eat (n3)
Additives (n8)		Safety (n10)	What-eat (n3)
Feed (n8)	Natural (n8)	Safety (n10)	What-eat (n3)
Feed (n8)		Safety (n10)	Response (n4)

Map education 2 (in school till 16-18 years), n= 17, Cut-Off Point 3

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Feed (n8)	Ahealth (n7)		
Feed (n8)	Safety (n8)	Hhealth (n11)	Healthy (n4)
Space (n12)	QualityL (n6)		
Space (n12)	Empathy (n3)		
Space (n12)			Care (n7)
Space (n12)			Living (n8)
Outside (n6)			Care (n7)
Outside (n6)	Natural (n10)		Living (n8)
Mass (n3)	Natural (n10)		Living (n8)
Lifespan (n8)	Distress (n7)		Young (n6)

Map education 3 (Technical), n= 8, Cut-off Point 1.5

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Slaughter (n6)	Mental (n3)	Distress (n3)	
Slaughter (n6)			Response (n2)
Slaughter (n6)			Humane (n3)
Slaughter (n6)	Suffering (n6)		Cruelty (n6)
Slaughter (n6)	Suffering (n6)		Living (n2)
Slaughter (n6)	Humane (n2)		
	Safety (n4)	Hhealth (n3)	
	Safety (n4)		Healty (n3)
Additives (n3)			Healty (n3)
Lifespan (n5)			Ethics (n5)
Lifespan (n5)			Young (n3)
	Natural (n3)		Ethics (n5)
	Natural (n3)		Natural (n4)
Space (n6)			Natural (n4)

Map education 4, (University), n=20, Cut-off Point 3

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (n12)	Mental (n5)		
Space (n12)	QualityL (n8)		
Space (n12)			Utility (n4)
Space (n12)			Respect (n6)
Space (n12)			Ethics (n7)
	Suffering (n6)		Ethics (n7)
Mass (n5)	Natural (n11)	QualityF (n5)	
Light (n5)	Natural (n11)	QualityF (n5)	
Feed (n8)		Hhealth (n11)	Healthy (n10)
Additives (n7)	Safety (n9)	Hhealth (n11)	Healthy (n10)
Additives (n7)	Safety (n9)		What-eat (n8)
Slaughter (n8)			Cruelty (n7)
Lifespan (n7)			Young (n10)

The consumer with different levels of formal education seem to have a different attitude towards animal welfare: going from group 1 (Obligatory school) to group 3 and 4 (Technical and University) a different hierarchy of values and different ladders appear. In group 1 there are only 3 attributes (Space, Feed and Additives) and these attributes lead mainly to functional consequences (Human Health) and instrumental values (Healthy Life). In group education 3 there is the opposite situation: the attributes most often listed are “Slaughter”, “Space”, and “Life-span” which lead to psychological consequences “Mental”, “Distress”, “Suffering” and to terminal values like “Ethics”, “Cruelty”, “Living” and “Natural”. In group education 4, which is more numerous, the ladders are similar to group 3, but there are also some more instrumental values (Healthy).

Pet ownership

Map pets 1 (pets yes), n =36, Cut-off point 5

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Feed (n19)	Ahealth (n10)		
Feed (n19)	Safety (n20)	Hhealth (n19)	Healthy (n14)
Feed (n19)	Safety (n20)		What-eat (n7)
Additives (n12)		Hhealth (n19)	Healthy (n14)
Space (n24)	Quality (n11)		
Space (n24)			Utility (n10)
Space (n24)			Respect (n8)
Space (n24)			Natural (n12)
Space (n24)			Living (n12)
Space (n24)			Ethics (n17)
	Natural (n18)		Ethics (n17)

Lifespan (15)	Ethics (n17)
Lifespan (15)	Young (n10)
Slaughter (19) Suffering (12)	Cruelty (14)

Map pets 2 (pets no), n =23, Cut-off point 3

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (n15)	Empathy (n3)		
Space (n15)			Rights (n4)
Space (n15)	QualityL (12)		Utility (n3)
Space (n15)	QualityL (12)		Respect (n7)
Space (n15)			Care (8)
Space (n15)			Natural (9)
Feed (n9)	Natural (n14)		Natural (9)
Feed (n9)	Natural (n14)		Living (n6)
Feed (n9)	Natural (n14) Safety (n11)	Hhealth(n11)	Healthy (n6)
Outside (5)	Natural (n14)		Natural (9)
Outside (5)	Natural (n14)		Living (n6)
Outside (5)	Natural (n14) Safety (n11)	Hhealth(n11)	Healthy (n6)
Additives (n9)		Safety (n11) Hhealth(n11)	Healthy (n6)
Additives (n9)			What-eat (n6)
	Suffering (n7)		Cruelty (n9)
Lifespan (n10)	Distress (n5)		Young (n11)
Lifespan (n10)	Maternal (n5)		Young (n11)
	QualityL (n7)		Quallife (n4)

The group of respondent (PET-1, n=36) with pets in the household was more numerous than the one without (Pet-2, n=24). Therefore we decided to adopt a different cut-off point for the two groups, 5 in the first and 3 in the second. In this case there is an interesting distinction between the two groups: in the first group is quite important the attribute “Slaughter”(mentioned by more than 50% of the respondents) and the associated consequence “Suffering” and value “Cruelty”. Cruelty is the second most often elicited value, after Ethics.

In the second group this ladder does not appear and the issue of killing the animals has not be mentioned by the respondents.

Other important ladders are :

“Space (n15) Natural (9)”, “Lifespan (n10) Maternal (n5) Young(n11)”and “Additives (n9) Safety (n11) Hhealth(n11) Healthy (n6)”

Which are common to the two the groups.

3.6 Consumption

Map Consumption 2 (medium consumption), n=50, Cut Point 5

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
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Feed (n22)	Ahealth (n13)		
Feed (n22)	Safety (n26)		What-eat (n11)
Feed (n22)	Safety (n26)	Hhealth (n26)	Healthy (n17)
Feed (n22)			Ethics (n25)
Additives (n21)	Safety (n26)	Hhealth (n26)	Healthy (n17)
Additives (n21)	Natural (n25)		Ethics (n25)
Additives (n21)	Natural (n25)		Natural (n18)
Light (n12)	Natural (n25)		Ethics (n25)
Light (n12)	Natural (n25)		Natural (n18)
Regulated (n11)	Natural (n25)		Ethics (n25)
Regulated (n11)	Natural (n25)		Natural (n18)
	Utility (n14)		Ethics (n25)
Lifespan (n19)			Ethics (n25)
Lifespan (n19)	Maternal (n8)		Young (n15)
Lifespan (n19)	Distress (n14)		Young (n15)
Space (n35)			Ethics (n25)
Space (n35)			Natural (n18)
Space (n35)	Distress (n14)?		Young (n15)
Space (n35)			Care (n12)
Space (n35)	QualityL (n22)		Respect (n13)
Space (n35)			Living (n15)
Space (n35)	Outside (n8)		
Space (n35)	Empathy (n6)		
Space (n35)			Cruelty (n20)
Slaughter (n16)	Suffering (n16)		Cruelty (n20)
Transport (n11)	Suffering (n16)		Cruelty (n20)

Map Consumption 3 (low consumption), n=9, Cut Point 2

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Slaughter (n7)	Suffering (n 3)		Cruelty (n 3)
Slaughter (n7)	Mental state (n 4)	Distress (3)	
Lifespan (5)			Young (5)
Feed (n5)	Safety (n4)		Healthy (n3)
Space (n 4)			Utility (n 4)
Mass (2)	Natural (6)	QualityF(2)	
Mass (2)	Natural (6)		Natural (5)

The group of respondent (Consumption-2, n=50) with medium consumption of animal products was more numerous than the one without (Consumption-3, n=9). Therefore we decided to adopt a different cut-off point for the two groups, 5 in the first and 2 in the second. In this case there are similar ladders but, obviously, there are more attributes, consequences and values in the more numerous group. It is interesting to note that in the second group is very important the attribute “Slaughter”(mentioned by 7 of the nine respondent), while in the first group does not have the same relevance.

3.7 Lifestyle

Map Lifestyle 2 (buy organic eggs sometimes and often), n=27, Cut Point 3

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (n18)	QualityL (n12)		Respect (n8)
Lifespan (n14)	Distress (n8)		Young (n11)
	Maternal (n3)		Young (n11)
Feed (n13)	Safety (n13)	Hhealth (n12)	Healthy (n7)
Slaughter (n10)	Suffering (n 10)		Cruelty (n 13)
Additives (n6)	Safety (n13)	Hhealth (n12)	Healthy (n7)
Light (n4)	Natural (n17)		Natural (n10)
Regulated (n5)	Natural (n17)		Ethics (n11)

Map Lifestyle 3 (buy organic eggs always), n=26, Cut Point 3

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (n16)	Qualityl(n11)		Care(n9)
Space (n16)	Qualityl(n11)		Respect(n6)
Feed (n11)	Safety (n14)	Hhealth (n14)	Healthy (n10)
Additives (n13)	Safety (n14)	Hhealth (n14)	Healthy (n10)
Slaughter (n10)	Suffering (n 10)		Cruelty (n 9)
Transport (n8)	Suffering (n8)		Cruelty (n9)
Slaughter (n10)			Ethics (n13)
Lifespan (n10)	Distress (n6)		Young (n9)
Feed (n13)	Natural (n13)		What-eat (n7)

There are not relevant differences between the two groups. Lifestyle 1 there was only 1 respondent.

Children

Map Children 1 (children yes), n =36, Cut-off point 5

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (n21)	Qualityl(n13)		Respect(n12)
Space (n21)			Cruelty (n12)
Feed (n21)	Safety (n22)	Hhealth (n23)	Healthy (n13)
Additives (n17)	Safety (n22)	Hhealth (n23)	Healthy (n13)
Additives (n17)	Safety (n22)		What-eat (n6)
Lifespan (n16)		Distress (n6)	
Lifespan (n16)			Young (n12)
Lifespan (n16)		Distress (6)	
Slaughter (n13)	Suffering (n 12)		Cruelty (n 12)
Light (n7)	Natural (n21)		Ethics (n19)

Map Children 2 (children no), n =23, Cut-off point 3

ATTRIBUTE	CONSEQUENCE	CONSEQUENCE	VALUE
Space (n18)	Qualityl(n10)		Ethics (n8)
Space (n18)			Respect (7)
Space (n18)			Response (n7)
Space (n18)		Mental(10)	Cruelty (11)
Space (n18)	Utility(n8)		Living (n6)
Space (n18)	Qualityl(n10)		Ethics (n8)

Feed (n7))	Hhealth (n7)	
Additives (n4)	Safety (n9)	Healthy (n7)
Slaughter (n10)	Suffering (n 12)	Cruelty (n 11)
Lifespan (n9)		Ethics (n8)
Lifespan (n9)		Young (n9)

There are not relevant differences between the two groups.

Concerns

In the Italian interviews 50 respondent fell in the class “high concerns” and only 10 in the category “low concern”. Given the different size of the sub-sample we use different cut-off points. The map of the first group is almost identical to the map of the general sample. In this case there are similar ladders but, obviously, there are more attributes, consequences and values in the more numerous group.

High-Education, Younger age.

We tried to select two sub-sample in order to underline some differences emerged in the first analysis of single socio-demographic codes. The first sub-sample ([map Edu3-4&age1](#)) consist of respondents with higher education (Edu 3 and 4) and belonging to age class 1 (25-39).

The second sub-sample ([map. Edu1&age2](#)) consist of respondents with lower education (edu 1) and belonging to age class 2 (40-60).

The two groups are different in size: the former consist of 19 respondents; the latter of 9. We decided to adopt cut-off point 1.5.

The differences already emerged in the maps of the single class of socio-demographic codes Education are sharper in the combination with age:

The most important ladder in [map Edu3-4&age1](#) are the following:

Slaughter (n10)	Mental (n8)	(Suffering (n9)	Cruelty (n 8)
Mass (n5)	Safety (n7)	Hhealth (n9)	Healthy (n8)

The most important ladders in [map Edu1&age2](#) is the following:

Feed (n5)	Safety (n7)	What-eat (n3).
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Section IV

Discussion

This section describes the most relevant values emerged from the means and chains analysis and the “ladder interviews”. Results are presented by illustrating the main links with consequences and attributes and the differences arisen in the socio-demographic groups.

Consumer values and concerns for animals welfare

In the Italian interviews the most important value associated with animal welfare is “Ethics”, mentioned by 27 respondents. Under this category we classified all the declarations of fair or unfair treatment, every declaration of strong approval or disapproval and when further explanation to the question “why is this right or wrong to you?” could not be provided. This value, in the national data, is strongly associated with “Utility”. Under the category utility we classified all the declarations that certain practices or rearing system are motivated only by the economic exploitation of the animals. The welfare of the animals is denied or neglected only for economic reasons. Other relevant links to the value “Ethics” are the concepts “Suffering” and “Natural”. Therefore it emerges quite clearly that for Italian consumers the welfare of the animals is linked to a very basic/terminal value “Ethics”, the way in which we should live. The economic exploitation of the animal for profits, the practices that entail unnecessary suffering, and the denials of natural condition of living to animal reared for food production are against this value. The concept of “Ethics” has been mentioned for the battery cage in the case of hen and for the veal crate system. These practices have been defined self-evidently unacceptable and against the common sense idea about “how we should live”.

The second most important value is “Cruelty” (Should not be cruel or violent to animals), mentioned by 23 respondents. This value is strongly associated with the concept “Suffering” and animal suffering is strongly associated with “Slaughter” and “Transport”. Very often the respondents mentioned practices that are perceived as violent or cruel and that are adopted for obtaining some superfluous or unnecessary product characteristic. Transport for example is seen as unnecessary in many case, and very often is perceived as a scaring and painful moment for the animals. The issue of slaughtering animals is more complex. All the respondents were consumers of meat

and other animal products, therefore it was implicit that they accepted as legitimate the killing of animals for food production. By slaughtering most respondent meant again unnecessary painful or scaring practices adopted for obtaining special characteristics of the products. Slaughtering has been mentioned in the case of veal production, and what has been defined cruel and unnecessary was the practice of cutting the throat of the animals in order to make them bleed and obtaining whiter meat. Slaughtering is also associated to the values “Response” (Responsibility for animals) and “Humane” which underline again the issue of unnecessary suffering. Slaughtering is also associated to the consequences “Distress” and “Mental”. Under the first concept we allocated all the declarations of feeling unhappy or deceived. Many respondents declared that they knew very little about the way in which animals for food production are kept or treated. They interpreted this lack of information as an intentional action of the producers and the supermarket chains in order to avoid consumer criticism about the way in which animals are treated, fed, reproduced and slaughtered. Most respondents expressed great suspect about the modern animal farm systems, and almost unanimously declared that the modern, intensive systems are worse for the welfare of the animals and for the quality of the products than the traditional systems. By “Mental” the respondents referred to the stress that animals go through at the moment of slaughtering. Most respondents believed that the scare that the animals feel when they are transported or when they are in the slaughtering plans will make the animals producing special toxic chemicals that will stay in their bodies and in the end will affect the consumers not only psychologically but also physically. The third most often elicited values are “Healthy”, “Natural” and “Young” (young animals should not be eaten) mentioned by 20 respondents each.

“Healthy” (a healthy life) is a concept that reflects the relevance that health has for a better life, a life lived at full. It is a value linked mainly to the consequences “Safety”(affect food safety) and “H-Health”(affect human health) and is strongly linked to the attributes “Feed”, “Additives” and “Regulated”(regulated feeding), but also to “Mass”(mass production), “Space”, Light, “Outside”.

“Young” is referred to baby –animals. In the Italian case is almost always referred to lamb³ and to calves for veal production. Very often is associated with “Maternal”

³ In Italy lamb is traditionally consumed at Easter time and much less during the rest of the year. The lamb is slaughtered when is less than a month old.

(maternal instinct) and mothers with children identify the baby-animals with their own children. For many consumers it is considered distressing the idea that young animals like lambs and calves are unable to live and develop, that they were born to be immediately killed.

“Living” (animals are living creature, should be respected as such) is the next value, elicited by 18 respondents. It is strongly linked to the concepts animal “Suffering” and “Natural”. “Care” and “Respect” (17 and 16 respondents) follow it. Both these concepts are linked to the animals’ quality of life, to the health of the animals and to the broad concept to “Natural”. Then there are the four last values, mentioned by a minority of respondents: Utility, What-eat, Response, and Humane. These values are not associated to main ladders. Utility is associated to the concept of animal quality of life, What-eat is linked to “safety”, “Response” is linked to “Space” and “Distress”, and “Humane” is associated with “Slaughter”.

The most often quoted Attribute is “Space” (40 respondents, 66% of the respondents in the sample). This attribute is strongly linked to “Natural” (Natural living conditions) and “QualityL”(animal’s quality of life), but is also linked to a great number of Consequences (Emphaty, Mental, Ahealth, Distress). Very seldom “Space” is directly linked to values, in some case is linked to “Ethics” or “Cruelty”. Space has been quoted especially for the battery cage and the veal crate system. This attribute has never been associated with products like “prosciutto” (cured ham) and “milk”. On the contrary, pigs for production of ham and cows for production of milk are considered animals with a higher animal welfare than hen and calves or bovine for meat production because they have more freedom of movement (at least in the mind of the consumers).

The second attribute is Feed (27 respondents) which is often mentioned with Additives (21 respondents) and Regulated (14 respondents) and all of them are strongly linked to Safety (affect food safety) and Hhealth (affect human health), and to the value Healthy (a healthy life).

Other important attributes are “Slaughter” and “Life Span”. The former is linked to consequences “Suffering”(animal suffering) and “Mental” (animal mental stress) and to the value “Cruelty”. Transport is also linked to consequences like “Suffering” and the value “Cruelty”.

Other attributes like “Light “ (14 respondents), “Mass” (12 respondents) and “Outside” (9 respondents) are often quoted with “Space” as further clarification of all the characteristics of intensive rearing system that deny natural condition of life to the animals. Also these attributes most often lead to the consequence “Natural”.

Among the 14 consequences we can distinguish 3 more self-interested consequences and 11 consequences for the animals (altruistic). Natural (altruistic) is the most often quoted consequence (33 respondents), and it is followed by “Safety” and H-Health” and Quality of the products (32, 30 and 15 respondents) which are self-interested.

The other consequences most often quoted are “Quality of life of the animals”(23 respondents), “Suffering” (19 respondents) and “Distress”(16 respondents). A minority of consumers has elicited the other consequences.

Key demographic findings

Level of formal education and pet ownership seem to be the only socio-demographic variables that discriminate consumers on the issue of animal welfare. For the consumers that have the experience of living with a pet the issue of killing the animals and the suffering of the animals seem to be much higher in their hierarchy of values. The consumers that do not have pet seem to be more oriented towards instrumental values (a healthy life), or more general values, like Ethics.

Also the consumers with different levels of formal education seem to have a different attitude towards animal welfare: going from the lower formal education to the higher a different hierarchy of values and different ladders appear. In group 1 there are only 3 attributes (Space, Feed and Additives) and these attributes lead mainly to functional consequences (Human Health) and instrumental values (Healthy Life). In group education 3 there is the opposite situation: the attributes most often listed are “Slaughter”, “Space”, and “Life-span” which lead to psychological consequences “Mental”, “Distress”, “Suffering” and to terminal values like “Ethics”, “Cruelty”, “Living” and “Natural”. In group education 4, which is more numerous, the ladders are similar to group 3, but there are also some more instrumental values (Healthy).

For the other socio-demographic variables there are not relevant differences.

Conclusions

From the ladder interviews and the means-end chain analysis and the previous stages of the research we can draw some conclusions: Italian consumers are not spontaneously addressing the issue of animal welfare in the context of food choice,

and the concern for animal welfare is expressed in connection with other food attributes (safety and quality).

Italian consumers are not very knowledgeable about modern rearing systems but in general they are very suspicious. The lack of information about animal farming systems is perceived as instrumental for avoiding consumers' criticism.

When consumers are brought to think about this issue, and they are asked to connect it to self-relevant consequences and values, as it happens in the ladder interviews, animal welfare is perceived as affecting some of the most basic values like "Ethics".

There is an acknowledgement that animals have the right to "Respect" and that they should not suffer. Widely shared is also the opinion that a low level of animal welfare will have an impact on consumers' health.

4.4 Implications for the survey

In the survey the two key socio-demographic variables (education and pet-ownership) should be further investigated.

Section V

Problems and Limitations

The only problems encountered in conducting the ladder interviews have been in the phase of recruitment, especially for the older age-class. During the elaboration of the data some difficulties have arisen in the use of the programme Laddermap. Most of the problems have been solved in an early stage of the analysis.

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