

Introduction

We are working on an in-depth qualitative study about the perceptions the Catalan society has about food safety. This issue is of special interest to the public administrations because of the social impact food crises caused at the end of the 90s. It was necessary to diagnose the current perceptions about food safety, identifying the conditioning factors, establish the real incidence on consumer habits and handling of foodstuffs, and study the transformations experienced over time by these perceptions. Therefore, the general objective of the study has been, besides carrying out the current diagnosis, to establish the knowledge bases and the methodological criteria to develop a system to track the evaluations and perceptions of food safety on a long-term basis.

In order to explicitly state this general objective, **five basic objectives** have been pursued:

- a) examine the current social perceptions, attitudes and evaluations on food safety,
- b) establish the factors that have a relevant impact on them and on their modification,
- c) determine the degree of incidence these perceptions and evaluations have on the individual food habits,
- d) analyze the degree of penetration of the recommendations about food handling on individual behaviour and domestic habits, and
- e) define methodological criteria and indicators to develop a system to track citizen changes on perceptions and attitudes regarding food safety.

The work methodology has been divided into three phases:

- **Personal in-depth interviews: qualitative analysis phase.** Sixty persons were selected, an equal number of men and women, aged 17 to 82, with different education (experts, high-level training, and workers in the food sector), residing in towns of different sizes. Objective: carry out the study of perceptions, attitudes and behaviours, both individually and in groups.
- **Discussion groups: first contrast phase.** There were 8 groups of different ages. The objective was to determine the underlying reasons for behaviour by applying the relevant factors that were identified in phase one.
- **Quantitative analysis using a reduced group: second contrast phase.** Two hundred and twenty persons were selected (none among the former participants), who answered a questionnaire that was based on the results of the earlier phase. The objective was to perform a follow-up and an in-depth study of the tendencies that were observed in the previous phase, and establish different correlations.

Interpretation framework

There are two scopes to be studied: social representation and public opinion, and the multi-dimensionality of food evaluation.

In the first place, **social representations** are a network of beliefs, knowledge and values that people use to approach and interpret reality. Other elements that intervene are experiences, acquired habits, social status and activities carried out, that are used as a base for people's attitudes and predisposal to act –attitudes and predisposals that are determined in specific behaviours according to diverse social behaviours. As a result, **representations are shared because they are built on a social scale even though they are interpreted individually.**

In the second place, **public opinion** is one of the elements that is integrated in representations. It is generated through several issues and the construction of a series of interpretative repertoires related to each of these issues, repertoires that consist of a group of patterns that are used to make the phenomena more understandable and to give them a specific sense. When these repertoires are mobilised by powerful agents, with social hegemony, it will be easy to spread them and even to impose them. As a result, certain ways of understanding these phenomena become culturally dominant. From the moment these repertoires begin to circulate, they are reinterpreted and rebuilt by social interaction, i.e., they take on specific shapes that coincide neither with what the social agents preached, nor with the version adapted by the media who helped to spread these repertoires. Finally, these repertoires will be assimilated by people and will become a part of their representations, and the opinions offered by these repertoires will have been spread out according to different social and demographic variables.

There are two ways to acquire the knowledge –that is part of the representations–: **direct knowledge** (acquired through experience) which tends to be deeply interiorised, reason for which behaviours are more strongly directed, and **indirect knowledge** (based on public repertoires) that is generally absorbed more superficially, making it easier to be forgotten. Consequently, when thinking in terms of food hazards, there are two ways to evaluate food safety:

- **Food hazards known through direct experience –individual and social- and through public repertoires simultaneously** (alimentary toxoinfection, gastroenteritis, hypercholesterolemia, obesity).
- **Food hazards known only through public repertoires** (prions, dioxins, benzopirens, additives, pesticides, fattening hormones).

The difference lies in the fact that these different routes of knowledge imply different attitudes and behaviours in normal situations and in situations of food crises.

In the third place, the **multidimensionality of food evaluation** means distinguishing between what the experts define as **food quality**, and the interpretation by the citizen. It is clear that the concept of quality includes different dimensions, even when the quality is integrated in the concept of safety together with innocuousness.

Quality basically integrates 6 main dimensions: nutritional quality (energy value and nutrient content), **sensorial content** (organoleptic characteristics), **hygiene quality** (absence of microbes), **technical quality** (handling, preservation), **environmental quality** (production processes), and **service quality** (simplification of tasks: fourth generation products). There is also the **ethical quality** to be considered (production methods) and the **quality linked to the origin of the product** (locally made products and *denominations of origin*). As an end note, **symbolic quality** given to the products by consumers (prestige, identity, associating a product to celebrations, consumption ethics) occupies an important place.

However, it is important to state that the **sensorial criterion is what is most directly and closely related to quality. All the other dimensions are additions and interact until the global image of a food is built.** Since they do not all have the same specific importance when it comes to selection, the *dimension of safety* must be analysed as one of the elements that are present in quality, having in consideration that both quality and safety are multidimensional. Consequently we must interpret the different meanings of safety when they interact on the significances that are present in the dimensions of the quality of food.

Continuing with the concept of **multidimensionality of the evaluation of food**, the **concept of food safety must**

interpreted. On one hand, **society does not include the real dimensions of accessibility and availability in the concept of food safety** since it is not a serious problem; they only appear when there is an explicit question about the differences between the current situation and a relatively recent past. The environmental impact and food imbalance show up as the negative counterpoints to this guaranteed access to food (and abundance).

The concept of food safety can be interpreted with five different approaches –with definitions attributed by a non-expert group- that overlap when it comes to quality dimensions:

- **Hygienic and bacteriological safety** (correct handling of products and adequate hygienic conditions together with the prevention of diseases caused by pathogens and allergens); **responsibility attributed to other agents** –in charge of control– **and to individual preventive measures.**
- **Nutritional safety** (capacity of the food to provide satisfactory nutrition); **responsibility attributed to other agents.**
- **Safety related to food behaviour** (when the behaviour is not correct it can be considered a source of insecurity: obesity, cancer and cardiovascular diseases, since food and smoking habits can be controlled by the individual. Also, the image of the body has an effect on health and aesthetics); **basically personal responsibility and less attribution to other agents.**
- **Safety related to food production methods** (chemical contamination: phytosanitary and zoosanitary, use of antibiotics and illegal fattening agents, and additives on a long term basis); **responsibility attributed to other agents and to personal attitudes and habits.**
- **Safety related to environmental contamination** (water and soil contamination); **responsibility attributed exclusively to other agents, nothing to do with personal behaviour.**

On the other hand, **the interpretation of the concept of food safety** shows **the inherent risks and problems** that are directly related to each of the mentioned safety stages. There are also **risk indicators** that can be used to evaluate product safety, such as: the aspect (colour and smell), definition of the acquisition (confidence generated by the salesperson and the brand), the price (too cheap generates mistrust), the amount of handling (less handling/transformation means a guaranty of safety), and the origin (whether the product and its origin are positively related, this information provides a feeling of safety). Another aspect are the **habits associated to these risks**, such as deficient hygiene of the handlers, interruption of the cold chain, washing the vegetables, peeling the fruits, and diversifying the list of foods. In short, everything sums up to the causes attributed to these habits (excessive industrialization, priority to financial interests, several deficiencies: in control, responsibility of the training agents).

Finally, before closing the chapter on **multidimensionality of food evaluation**, we must mention the **social construction of the concept** –the idea we have about food– having in consideration that the different dimensions of quality (including safety) are the bases on which this idea is built, that guide behaviours (instead of determining them) and to which the conditions that limit them must be added. Consequently a system of dichotomies is established: pleasant/unpleasant, dangerous/innocuous... above which other considerations that revive the products, coincide. Thus, the quality that is finally attributed to the foodstuffs is the result of the interaction of each of these bases, not their addition (the most satisfactory products from all points of view are considered safer).

However, since not all dimensions use the same power bases when guiding behaviour, nor are they all interiorised in the same way everywhere, different habits show up:

- The **hygienic and bacteriologic dimension** shows up more in an alarm situation –in summer– and the related dangers guide us towards extra-domestic habits (choice of restaurant, establishment, brand) and domestic habits (wash our hands and kitchen utensils, preservation of the cold chain).
- The **aesthetic and nutritional dimension** guides us in normal situations (choice of menus, ways of conservation, food intake).
- The **food production dimension** guides us in the choice of safer products –more ecologic– with lesser additives, barely processed products.
- The **dimension related to contamination**, generally does not guide any specific habit, rather an attitude of powerlessness.

Achieved results

Before starting, it was important to **identify and interpret concepts**. Thus we asked about two concepts: food safety and the ability to trace it. Regarding **food security**, there were a high number of negative answers. This was not an inconvenience when it came to defining relationships and reaching conclusions about what the concept meant (this fact is typical of any study on food, since eating is a daily and unavoidable habit, everybody considers having an opinion and basic knowledge about it). Among all the dimensions stated in the questionnaire, and most related to food safety, the hygienic and sanitary dimension was in first place, followed by dietetics and nutrition, the link to accessibility to food or the organoleptic characteristics are not considered. As for **traceability** –the capacity to trace the history of a product through the food chain–, only one tenth of the persons interviewed defined it correctly, in spite of the fact that, due to the *mad cow disease* issue, there is the impression that there are mechanisms that allow products to be traced until they reach the consumer.

Another preliminary question that should have been solved was the possible difference between the **yesterday's food safety and today's**, related to an apparent paradox in circulation: even though there is an increasing concern by all the agents implicated in the food chain –including the Administration– to ensure safety and that the control systems are more detailed, customer mistrust is also rising. What was most clear is that the controls related to food safety are actually superior. Even so, there are problems and the idea whether food was safer before or today, provides nearly balanced answers –although with large contrasts according to the age groups.

We will now evaluate the different **dimensions of food safety**:

- **Hygienic-sanitary safety evaluations**: this perspective does not provide a general perception of food hazards when buying products, especially when they are packaged and labelled since this implies safety. According to the general opinion, safety is guaranteed within the E.U. but it is not when the products come from developing countries (considered to be deficient in the field of hygienic and sanitary safety related controls). The demand to increase safety-related controls expresses in reality the requirement to perform the control, rather than to increase it.
- **Evaluation of nutritional safety**: this perspective frequently shows the consideration that today's fresh foodstuffs are less nutritional than before, a consequence probably due to the intense ways of production and the conditions in which they are preserved and transported (a clear example would be tomatoes). The answers are almost equally divided between *before and now* –even though elderly people are clearly inclined to *before*. There is mistrust when it comes to adding calcium, iron and vitamins to food, since they do not have the same nutritional value.
- **Evaluation of safety related to food behaviour**: under normal circumstances, that is: no alarm situation, this dimension is more negative than the hygienic-sanitary dimension. It turns out that the lack of balance, the consumption of unhealthy food and the interruption of eating habits generate worries, and that the effects the media has on the increase of obesity –especially in children– has touched a nerve in the population. Dangers to health such as hypercholesterolemia, (arterial) hypertension or hyperglycaemia are also present.
- **Evaluation of safety related to contamination**: there is quite a lot of danger due to the air, soil and water being affected by production methods and environmental contamination. There is the perception that measures taken on an individual scale are absolutely inefficient to address this issue.
- **Evaluation of safety related to production methods** (closely linked to the above point): generally, European consumers are more concerned about the presence of pesticides in agricultural products and hormonal and antibiotic agents in animal production, than about the use of additives in the food industry:
 - **Related to agriculture**: there is a clear polarization (acute among youth) in the more negative critics regarding intensive agriculture and the fact of accepting it as *the lesser of the evils* since it provides a guarantee of sufficient supply for the population. Regarding phytosanitary products, there are doubts when they are used in third-world countries –due to abuse and not respecting the interval between the application of the product and the harvest–; in this sense, the effect the continuous consumption of these products in small amounts with potential chronic effects on development and reproduction causes more concern than the acute pathologic effects.
 - **Related to cattle farming**: the use of prophylactic or therapeutic products in animals does not arouse generalized prevention, rather products such as growth stimulators that are used for economic purposes, their negative effects have been demonstrated (a paradigmatic product would be chlembuterol). More than half the people interviewed refer to the *mad cow disease* whilst a lesser proportion refers to dioxins found in Belgian chickens or to avian flu as facts of the past instead as indicators of the current situation.

- **Related to the food industry:** additives constantly appear as a potential problem. In reality, a lesser use of these products is preferred, but rejection matches acceptance because their use is regulated and controlled –food dyes generate more rejection because they are considered unnecessary.
- **Related to artisan production methods:** we come across opposing attitudes: one half expresses mistrust in this production method, with the argument that there are no hygienic and bacteriological guarantees, whilst the other half opts for safety arguing that the products are handled correctly and that better quality raw material is used.
- **Interaction between public repertoires and direct knowledge regarding evaluations of food safety:** many evaluations are quite homogeneous because some of the questions asked are far from direct knowledge. Consequently, the evaluation is based on repertoires currently in circulation (such as the access to diversified food, caused by modern production conditions, has increased the average population height and life expectancy). However there are negative observations such as the increase in prevalence and the number of food-generated disorders. When we pass from general evaluations (based more on public repertoires) to more specific evaluations, according to products, the importance of direct knowledge increases, based on experience.

Before talking about evaluations according to types of products, it was necessary to discover the **information about food-related dangers**; questions about three different types were asked:

- **Biological hazards**, four of which are known:
 - **Food toxiifections:** even this term is not well known, it brings to the mind diseases caused by the intake of foods and is related to digestive symptoms. Nearly everybody has heard of salmonellosis, and a very large proportion of the participants relate it to the use of ovoproducts (it is rarely linked to meat or to dairy products). This converts into a set of personal preventive habits. Conversely, *Escherichia coli* is known to barely one fifth of the participants.
 - **Food parasites:** only *Anisakis* is mentioned as one of the parasites that participate in transmission by food, and is basically linked to bluefish, lesser to whitefish, and even lesser to cephalopods; the highest recognition rate corresponded to persons in charge of food and to the elderly; sources of information were salespeople, informal chats, the media (a reduced group in the case of the latter).
 - **Cross contamination:** in spite of the low number of persons who were familiar with the term, habits followed to avoid it were mentioned.
 - **Transmissible encephalopathy:** bovine spongiform encephalopathy is well known due to mad cow disease; it implies a certain risk when consuming cattle meat –some only link it to certain parts of the animal.
- **Chemical hazards:**
 - Hazards of **biological nature** are hardly known, for example toxic substances in edible vegetables or mycotoxins; marine biotoxins are never mentioned.
 - Toxins of **chemical nature** (contaminants), such as heavy metals, are mentioned more often: mercury is associated to fish (due to the media, salmon from fish farms is linked to food insecurity); also, lead is associated to products cultivated close to roads –nobody mentions cadmium. *Dioxins* generate non-specific and fragmented knowledge, transmitted by the media, with the exception of those who recall the Belgian chicken crisis in 1999. A small group referred to the problems related to the consumption of griddled or barbequed products, and also to smoked products in relation to cancer (exposure to *polycyclic aromatic hydrocarbons*), without giving the matter much importance since we are used to consuming such products *occasionally*.
- **Allergies:** are known superficially; basically cow milk for newborns, eggs and dry fruit.

The **evaluations made according to product groups on hygienic-sanitary safety are an important section in the task**; eight were evaluated:

- **Meat:** half the interviewees considered meat safe, whilst the other half expressed their doubts about the production methods. Their evaluation was based on: care during the preservation process; buying well (establishment, trust the seller, origin, price), guided by the price and labelling and know the product well. There weren't differences regarding chicken, lamb or pork (veal is absolutely safe).
- **Fish:** more than half the interviewees considered it danger-free on condition it was fresh, well preserved and is consumed without delay (otherwise it would need to be frozen). Their evaluation was based on: buying it well, don't trust products coming from far, use sensorial indicators (smell, colour, shine) to ensure the product was in good conditions, and apply basic hygienic rules for all fresh products; one fourth of the interviewees mentioned the parasites inherent to fish and about what should be done to be able to consume raw fish (efficient cooking or preliminary freezing).

- **Vegetable and fruit:** from a nutritional safety point of view, they are prominently healthy, although their production methods imply certain dangers. Their evaluations are based on: washing the vegetables well, peeling the fruit and vegetables to eliminate phytosanitary agents and choose the shop well.
- **Oil:** the interviewees clearly differentiated between the high evaluation of olive oil, reserves shown about sunflower oil, and mistrust of other types (home-made and bulk) due to the colza oil issue. Their evaluation is based on: absolute faith in olive oil, avoid using it several times, and buy only known brands (avoid non-labelled products).
- **Eggs:** a minority considered that there is no problem related to eggs. Their evaluation is based on: the relationship between salmonellosis and egg consumption (basically with mayonnaise), store them in the fridge, use fresh eggs, check the “Best before date”, ensure rotation of the product stored in the fridge, avoid leaving food containing eggs at room temperature (for more than two hours), don’t eat raw eggs (with scarcely cooked yolk), check the shell (main source of risk), be aware of the danger of left-over mayonnaise (specially in the case of food consumed outside home), and wash you hands before and after handling fresh eggs.
- **Canned foodstuffs:** the majority of the interviewees consider that canned foodstuffs imply no danger. Their evaluation is based on: don’t abuse of these products because of the preservatives they contain, give preference to foodstuffs canned in olive oil (sardine and tuna), and check the “Best before date” (a concern that was rated lower than in other products).
- **Precooked food:** there is no negative opinion on a hygienic-sanitary scale. The evaluations were based on: these products contain too much additives (their consumption requires knowledge of the colouring products and preservatives they contain), there is no detailed description of the ingredients, there is a significant difference in the evaluation according to the ages (elderly persons use them less and their lack of knowledge generates mistrust), doubts about the hygiene during preparation and retailing, check the “Best before date” and store them in the fridge.
- **Frozen food:** they were well rated since the technology was not questioned, rather the quality of the product that was put on sale. The evaluations were based on: make sure not to interrupt the cold chain, defreeze well, avoid refreezing defrozen products (non-elaborated frozen products generate more confidence than elaborated products). According to products: freely consume frozen vegetables, do not trust the quality of frozen fish sold in the market, freeze fresh meat at home to know how long it has been frozen (this mistrust does not show up with peas, for example).

Regarding the *evaluation of the agents* (represented by seven groups): producers, Administration, transport and distribution, retailers, restaurants, consumers and experts), responsibilities are distributed, when it comes to guaranteeing food safety, according to the issues of most concern. In decreasing order: remains of pesticides, growth hormones, interruption of the cold chain, excessive content of additives, outdated products and lack of personal hygiene (washing the hands). Consequently, responsibilities are shared among the different dimensions of food safety as follows:

- **On a hygienic and sanitary scale:** everybody is responsible. The highly positive image of the big industry (producers) occupies a prominent place because they are highly made technical, follow strict hygienic rules, have external and internal controls. The issues arise at the middle level (transport and distribution) –due to the interruption of the cold chain; the retailers are evaluated mainly with respect to fresh products.
- **Safety related to food behaviours:** in the first place of responsibility are the consumers; they consider themselves as having the knowledge needed to know which consumption behaviours are adequate; industry comes in second place, in charge of selling food products that are absolutely incorrect, and finally the Administration which should perform controls.
- **From an environmental contamination safety standpoint,** the first place of responsibility corresponds to the producers:
 - In the food industry, the generation of packaging-related waste plays an import part.
 - In agriculture, there are four areas of mistrust (even though the general opinion is that the work is well done): ignorance about agricultural activities, bad habits due to greed for large profits, lack of proper training, and subject to a troubled production system. Ecological production has obtained a very high evaluation.
 - Animal husbandry has more preventions: fraudulent fattening, poor quality feed, excessive economic greed. The role played by the Administration is considered to be important but so far insufficient.

It was also necessary to check *management of food safety at home*, at three critical stages of the process:

- **The purchase:** action which shows the importance of the aspect of the products, the choice of the establishment and the confidence in the seller (mainly by the buyer) when it comes to meat and fish. Regarding packaged and labelled goods: the most frequently used criteria are the brand and the price. In the case of food alarms,

referring to the salesperson is a basic step to obtain first hand information and also because a commercial relationship implies caring for the client (commercial interests are seen as a guarantee of safety).

- **Transporting the food products home:** an action considered delicate for hygienic and sanitary safety. Related habits are: do not delay to store the products in the fridge, use isothermal bags to transport frozen foods (or buy in shops close to home), follow an order of entry for placing the goods in the fridge in order not to interrupt the cold chain: first the frozen goods, followed by the meat, fish and eggs, and finally the dairy products, cold meats and vegetables.
- **Handling food at home:** studied by comparing the results obtained at the interviews and with the groups, with the results obtained from the questionnaire. They jointly show that the knowledge of the means needed for handling by persons who are in charge of purchasing and cooking is not the same as those who do not have these responsibilities.
 - Habits related to different types of food:
 - > Washing the vegetables, fruit, and eggs
 - > Defreezing methods
 - > Preservation of vacuum-sealed foodstuffs (cold meats) or caned products (tomato sauce) once they are opened.

Vegetables are washed with water, fruit is peeled or washed with water, eggs are eaten directly from the box (without washing), defreezing is done at room temperature, cold meats (and similar) once opened are stored in the fridge wrapped in aluminium foil, and canned products once open are stored in closed jars.
 - Personal precautions in handling food, obtained from the questionnaire and from the interviews:
 - > Wash the hands before handling food (more for cleanliness or distaste than for avoiding dangers)
 - > Keep pets away from food and the kitchen
 - > Keep working areas and kitchen utensils clean, and clean them after handling raw food (more for cleanliness or distaste than for avoiding dangers)
 - > Avoid cross contamination, i.e., store raw food separate from cooked food in the fridge and in different containers (more for a question of order than to avoid contamination)
 - > Cook raw food to avoid dangerous bacteria (seven related behaviours)
 - > Warm the food from a former meal or previously prepared (eight related attitudes)
 - > Keep prepared dishes in the fridge (six related possibilities)

On the same lines, ***the use of a label to generate confidence*** shows the paradox of the fact that requiring full comprehensive information on the label is more for the purpose of having that information at hand than for the fact of wanting to know its contents (except in the case of people with food allergies). Having a correct label is considered a guarantee of hygienic and sanitary control. However, one third of the participants declare not knowing how to interpret all this information correctly (basically, the *E* in the additives arouse suspicion); therefore the labels are not read. In a decreasing order of what is checked: first comes the “Best before date”; in second place the preservation methods, the list of ingredients, the origin and the brand; in third place come the nutritional composition, the calorie content, the fat content, the additives, and finally the name of the manufacture (far behind).

Finally, the ***perceptions related to food crises*** were defined, considering two parameters:

- **Memory and recognition:** the most widely identified crisis is the mad cow disease issue, followed by the colza oil problem (especially in the case of people who were directly affected by it); the memory of dioxins in Belgian chickens is rather irregular, and the memory of polycyclic aromatic hydrocarbons in dregs of olives oil is very scarce. Strangely, the more recent case of salmonellosis caused by packaged chicken has been forgotten by a major part of the participants; they consider it is not a product of usual consumption, and need to know where this type of product can be purchased. As for avian flu, in spite of the case being today’s news, there has been no increase in specific information about the origin of the causes; however there is practical knowledge: cook all bird meat and eggs adequately.
- **Changes in behaviours in the case of a crisis:** changes related to buying decisions, have important economic consequences and a serious impact on the affected sector (mad cow disease). As a result, the strategies that have been adopted in case of crisis are: temporarily avoid the potentially dangerous product (replace veal by another type of meat), search for information to clarify doubts (give more value to labelling), carefully select the shop, look for more expensive meat (give more value to the *denomination of origin*), change strategies once the situation is back to normal (take advantage of offers), continuously reject those parts of the animal that were directly implicated, return to the former scale of consumption once the emission of information about controls has ceased, or definitely cease consumption of the critical product.

Regarding the way food crises are interiorized, there is:

- A negative evaluation of the warning and prevention systems, specifically because it is an unusual situation.
- Aggravation of the negative perception due to the contraindications issued by several agents with different interests, and the speeches by the Administration downplaying the importance of the risk.
- An observation addressed to the media for the fact that they use an alarmist tone even though they ensure that the information is divulged to the public and that it reaches everybody.

And finally, the evaluation of the results obtained is brought to a close with the concept of **food safety as another dimension of the quality of food**. Having obtained the global evaluations regarding food, we had to study the evaluations about their *healthiness*, i.e., the first things that bring up the term healthy are those foods that are considered to be good for the body (physical and mental benefits); we were within dietetic and nutritional safety. Consequently a list of priorities was set up about:

- The **evaluation of the healthiness of different products**: in the first place, the primary evaluations correspond to the group of fruits and vegetables, followed by olive oil. In the second place comes bluefish, whitefish, and milk; in third place of healthy food comes pasta, cheese, squid and cuttlefish (representing cephalopods), veal, chicken, bread and eggs; and in fourth place comes sunflower oil, pork and deep frozen foods; finally, precooked food get a very negative evaluation from a health point of view.
- **Food-related concerns**: in the first place, the biggest known concern corresponds to a *balanced diet*; in the second place, *intoxications*; in third place, *weight control*; in fourth place high *cholesterolemia* or *glycaemia rates*, and finally *digestive problems*.

Global evaluations

In spite of the multidimensionality of the quality of food, in Catalan society, the dimension of the organoleptic qualities and the dimension of food behaviours are the factors that have most effect on the global evaluation; it is only in the case of food-related warnings does, the hygienic and sanitary dimension move into first place. Strangely, the ease to obtain food is not an important issue in today's society.

Generally, there is no feeling of insecurity because there the hygienic and sanitary control mechanisms have been improved. Thus, in normal situations the evaluation of food safety and the subsequent strategies play a role that is secondary to the evaluation of food safety; worries related to food behaviours and physical well-being predominate.

As the persons in charge of the hygienic and sanitary dimension, we find, in order of attributes, consumers, producers and the Administration. However, it is worth mentioning that the population as a whole follows hygienic measures more out of habit or repulse, than for hygienic and sanitary concerns, with the exception of persons in charge of domestic tasks, who show a more pronounced interiorization of specific recommendations. Nevertheless, citizens in general, have fragmented and unspecific knowledge about the dangers related to food safety.

Finally, based on the above stated multidimensionality, the evaluations about food were made on three levels: from the *consumer's point of view*, the strategies that guide the actions of purchasing and consumption predominate; from a *citizen's point of view*, production methods and ethics predominate, as well as generalized access to food; from a *diner's point of view*, the dietetic and nutritional dimension and pleasure related values predominate.

To conclude, the high level of global confidence expressed from a standpoint of safety (it drops in situations of *food insecurity*) is worth mentioning. This allows us to minimize the impacts of a food crisis. The need to increase sensitization and broadcast good practices regarding handling food at home is also worth mentioning.