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Do we know what we eat?: Perceptions regarding food risks in Catalonia, Spain

¿Sabemos lo que comemos?: Percepciones sobre el riesgo alimentario en Cataluña, España

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ABSTRACT This article describes and analyzes social perceptions regarding food risks in Catalonia (Spain). In particular it uses the narratives of informants to determine which foods are perceived as dangerous and how, when, where and why this perception of risk develops. Through a qualitative research study, we explored how lay discourses are constructed and managed, creating diverse imaginaries regarding food risk that do not always coincide with the biomedical view. It is highlighted that food risk is not always associated with the dangers of progress or industrialization, nor is it necessarily focused on the dichotomous debate of "industrially produced food" versus "natural food"; rather food risk perceptions revolve around a series of possibilities that are also related to the production, distribution, preparation and/or consumption of food.
KEY WORDS Feeding; Risk; Perception; Personal Narratives; Spain.

RESUMEN En este artículo se describen y analizan las percepciones sociales sobre el riesgo alimentario en Cataluña (España), que inciden en qué alimentos son percibidos como peligrosos, pero también en cómo, cuándo, dónde, por qué y de qué manera se concibe este riesgo a partir de las narrativas de los informantes. A través de un estudio cualitativo, se ha explorado cómo se construyen y gestionan los discursos legos, que conforman imaginarios diversos sobre el riesgo alimentario que no siempre coinciden con la mirada biomédica. Se señala que el riesgo sobre los alimentos no siempre se asocia a los peligros del progreso o la industrialización, ni se centra necesariamente en el debate dicotómico "alimento industrializado" versus "alimento natural", sino en un conjunto de posibilidades que tienen que ver también con el contexto de su producción, distribución, preparación y/o consumo.
PALABRAS CLAVES Alimentación; Riesgo; Percepción; Narrativas Personales; España.

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

INTRODUCTION

Chemical substances utilized in agricultural and industrial production, alongside a growing demand for a wider range of alternative food products and increasing diversity in forms of production, consumption and eating habits (functional, therapeutic, ecological, local, sustainable, responsible, hedonistic, autonomous, solidarity-based, and so on), all contribute to changing social perceptions regarding food risks. In Catalonia, a decline in the food confidence index has been registered with respect to previous years, dropping 2.6% among the general public and 8.4% among households.[1] Similarly, a number of studies[2,3,4,5,6,7,8,9,10] have shown an increase in negative perceptions regarding the application of biotechnologies in the food industry in Europe, as well as growing concern regarding water pollution, toxic substances in fish, and the use of chemical products and pesticides.[1]

The majority of these studies – in addition to reports published by prestigious national and international institutions such as the United Nations Food and Agriculture Organization (FAO) and the World Health Organization (WHO) – as well as the majority of food regulation and nutrition education initiatives based on such studies, focus on analyses of food safety and perceptions of food risks resulting from industrial processes, technological applications, and aspects of the political and economic organization of contemporary society. These studies primarily center their analysis on biochemical and technological aspects of food production and the food chain, and consistent with macroeconomic frameworks such as that of *risk society*[11] tend to attribute negative perceptions regarding food to the distance from these processes perceived by the general population, in that we *do not understand* such processes or we feel that we *do not know what we eat*.[12]

Nonetheless, apprehensions regarding food experienced by the general public cannot be reduced to a question of being in favor of or against industrial production, nor can it be reduced to the polarizing and often oversimplified debate on *artificial* or *industrially produced food* versus food that is considered *natural, ecological,* or *unprocessed*.

Therefore, this study was informed by the notion that social perceptions regarding food risk are multidimensional, and cannot be contained within interpretive frameworks centered exclusively on analyses of the causes of industrialization and progress in capitalist societies. In fact, as early as 1973, Douglas posited that research on perceptions of risk should also take into account symbolic and cultural factors.[13] Furthermore, most conceptualizations of risk developed by the social sciences in the last two decades all concur that perceptions are shaped by complex social processes, which are in turn politically and culturally constructed.[14,15,16] Some authors[16] stress that perspectives which take into account exclusively macroeconomic factors are often insufficient for analyzing how individuals construct their perceptions of risk.

Therefore, our research was also concerned with analyzing how lay actors actively receive expert knowledge and construct ideas and discourses about food risk. This dynamic and interactive approach allowed us to see that in addition to other sociocultural variables such as age, gender, education, socio-economic status, or occupation, other factors exist that have to do with the lived experiences of subjects, suggesting a need to devise novel approaches to the study of food risks.

In this sense, we have observed that discourses and practices related to risk and nutrition have become increasingly focused on the body – as an individual, social, and political construction[17] – in that perceptions regarding "food contamination" are not only based on a biomedical view of physical, chemical, or biological modifications to food (for example, through the use of additives, pesticides, or hormones), but are also conceived of in terms of the individual, social, and political corporeality that surrounds "food contamination:" experiences related to food and who produces, distributes, prepares,

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

and consumes it; taste, olfactory, visual, religious, or moral symbols historically and culturally associated with food; and political and economic actors that decide, legislate, and regulate what food is to be considered safe or unsafe, thereby exercising (bio)power[19] over individual and social bodies.

In light of these considerations, the objective of this article is to describe and analyze social perceptions of food risk in Catalonia (Spain), placing focus not only on *what* foods are considered to be dangerous, but also *how, when, where, why,* and *in what ways* such perceptions emerge, based on the discourses and experiences of informants. This article presents the partial results of an interdisciplinary project entitled "Toxic Bodies and the Sociocultural Ethnoepidemiology of Internal Contamination by Persistent Toxic Substances (PTS) in Spain," conducted at the Department of Social Anthropology of the Universidad de Barcelona. This project is directed by Dr. Cristina Larrea Killinger and has received funding from the National Program for Fundamental Research Projects, Ministry of Science and Innovation, Spain (CSO 2010/18661).

MATERIAL AND METHODS

This qualitative study, based on individual semi-structured interviews, was conducted in Catalonia (an Autonomous Community of Spain) between 2011 and 2013. Forty-three interviews were conducted with informants in some way linked to the issue of food contaminants, whether professionally (veterinarians, farmers, firefighters, butchers, janitors, and similar) or socio-politically (ecologists and public servants), including individuals who consume organic products or follow alternative diets.

Consistent with the specific aims of the study, a nonprobability, purposive sampling strategy was used in order to account for the variety, heterogeneity, and significance of different professional sectors while achieving a balanced sample in terms of the representation of different sexes, age groups (all over the age of 30), educational backgrounds, and geographic origin (rural vs. urban).

The objectives and methods of the study were provided to participants and informed consent was obtained; assurance was given that all data obtained would be treated with anonymity and confidentiality throughout all stages of the research process.

Interviews were recorded and the audio files were then transcribed. These were then analyzed in order to identify common themes and patterns in order to create codes, categories, and coding families in line with the strategies of grounded theory.[20,21] Data were analyzed with ATLAS.ti software and stratified by sex, age, educational background, and geographic origin. Diagrams and semantic networks were then constructed in order to visually represent the relationships existing between different codes and categories.

Finally, it should be noted that in the sections that follow, pseudonyms have been used in order to preserve the anonymity of informants.

PERCEPTIONS REGARDING FOOD RISKS

The results of this study seem to suggest that there is a great deal of diversity in terms of how individuals conceive of and understand food risk; from discourses that center on the food itself (the *what*) – usually characterized as a spectrum that ranges from *natural* food to *artificial* food – to conceptions of food safety based on *how* food is produced and controlled or *how much* of it is ingested over time, related to notions of dosage, accumulation, and length of exposure to certain substances. Additionally, the construction of perceptions regarding food can be influenced by the physical and social distance an individual perceives from the production, distribution, and preparation processes (*who*, *for whom*, and *where*).

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

Are food risks about the *what*?

Several informants associated food risk with *industrially produced food*, which they tended to contrast with what they considered *natural* food. These categories are often difficult to analyze given that they frequently comprise heterogeneous and dissimilar conceptualizations of *natural* food and food that has been *transformed* in some way. Despite this difficulty, generally speaking characterizing a food as natural is somehow linked to the fact that it has not been industrially transformed or manipulated in any stage of its production, distribution, conservation, and/or final preparation. The notion of *natural* is also associated with a number of other dichotomies such as *rural* vs. *urban*, *traditional* vs. *modern*, or *local* vs. *global*.

In this sense, Luisa commented on the risks that industrialized agriculture poses to human health and to the natural environment due to the use of chemical products, based on her professional experience as a food and agricultural technician:

> *Industrialized production in agriculture involves the use of pesticides, herbicides, fungicides, etc. Many of these have been proven to a greater or lesser extent to be harmful to health. For example, glyphosate used to be considered a product with low levels of environmental risk and now I read scientific articles that disagree with that.* (Luisa, 35 years old, Barcelona)

Gerard, a flower producer from Tarragona, associated food risk with processed foods, due to their supposed artificiality and a lack of knowledge regarding their origins. Consequently, Gerard defined natural as food that was produced locally:

> *Processed food is something that I really try to avoid* [...] *because of all the fats and additives. In my house we really like to eat natural, locally-grown food that you more or less know where it comes from and that it's better for you.* (Gerard, 66 years old, Tarragona)

Additionally, Gerard expressed a belief that there are objective differences between artificial (industrially processed) foods and natural ones – noticeable differences in taste, smell, color, and texture. He based this conclusion on some of the habits he recalled observing in his grandfather as a child:

> *Chickens nowadays don't taste the same as the free-range chickens my grandparents raised. And the eggs – wow, have they changed! When you talk about industrially produced food, like fruit for example, it has to be picked before it's ripe and so it loses a lot of its flavor. If a peach has to last for three days in the supermarket, it can't be ripe when it arrives. So you have to pick it while it's still unripe, and that gives it another flavor. Unripe peaches are sour, they aren't as flavorful.* (Gerard, 66 years old, Tarragona)

This account reveals how a person's experiences with sensory cues related to food inform their interpretation of how a given food product has been produced, and by extension its safety for consumption. Moreover, depending on whether or not it retains its color, or depending on whether or not it meets pre-established standards of what is thought of as natural, it will be perceived as more or less toxic, contaminating, safe, or unsafe to one's health.[22,23,24]

For Gerard, industrially produced food could never compare to natural food. He acquired the majority of his knowledge on agriculture from his family. Through these experiences he developed dichotomous ideas regarding the *food of today* and the *food of the past*, *modern food* and *traditional food*, and finally *industrially produced food* and *natural food*. Constructing his discourse around these opposing categories, Gerard consistently identified the second option as the most natural and safe. Similar patterns have been shown in other studies, both conducted in Europe and in the Americas, which note the ways in which notions of "natural" food are associated with commonplace ideas such as *biological*,

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

healthy, *plant-based*, and *environmental*.[25] Furthermore, studies suggest that individuals who express preference for natural products continue to do so even when demonstrated the benefits of certain artificial foods.[26]

Nonetheless, some informants strictly limited their definition of natural to only include ecological food [in the EU, food regulations allow a product to be labeled as "ecological" if at least 95% of its ingredients are EU-regulated organic foods]. However, it was also clear that not all informants agreed whether or not ecological foods were necessarily safer, healthier, or completely free of chemical contaminants. In fact, Raúl questioned both the effectiveness of ecological production and whether or not it can really be considered "natural" based on his 15 years of experience as a veterinarian:

> *A lot of times what people consider to be ecological food is based on a misunderstanding, it's just a perception of theirs. You think that a farm-raised rabbit is more ecological, but the truth is it could have been medicated. But since you know that it's been raised by Maria in her back yard, it seems to be more natural. When in reality it's been medicated without any control whatsoever. Or an ecological crop is grown right next to a transgenic one … It's really difficult to control "ecological" food.* (Raul, 38 years old, Tarragona)

Rosa, a primary school teacher, believed that supposedly naturally-produced foods could turn out to be even more dangerous than those which had passed the controls of industrial processes. What she was most worried about was whether or not naturally-produced foods were subjected to any types of industrial controls whatsoever. Rosa had constructed these notions over the course of the years based on personal experiences with her grandfather, uncle, and other farmers from her village:

> *Sometimes we buy food at a local market thinking that it is natural, that it has been grown naturally in some nearby orchard … and it turns out that the water used in growing it came from a contaminated source, the farmer applied pesticides without any type of limit … and so it's actually more dangerous than other foods. It's easy to see in my village.* (Rosa, 35 years old, Castellón)

Similarly, Julia expressed doubt with respect to how natural certain foods were, noting that:

> *Nowadays nothing is natural. I'm sure that there is nothing 100% organic.* (Julia, 63 years old, Barcelona)

There are also a number of debates within the scientific community over this type of stance on natural food and the health benefits of ecological foods. Recent studies have supported claims about the health benefits of organic crops and food products, in particular regarding higher levels of antioxidants, lower cadmium concentrations, and lower amounts of pesticide residues than conventionally grown crops.[27] Nonetheless, other authors have noted a greater number of public health alerts in relation to ecologically-produced food products, as well as the fact that current regulations applying to ecological products occasionally permit certain production practices that may in fact be harmful to the environment.[28] Similarly, a recent study conducted in the city of Barcelona revealed a number of contradictions and paradoxes in social discourses regarding ecological food, not only related to nutritional issues, but also different medicinal, scientific, moral, spiritual, political, and economic conceptions of the world.[29]

In the opinion of José, a rancher and farmer from the town of Lérida, there are no inherent dangers to industrially produced food:

> *Industrial production isn't dangerous. Nowadays there are no real dangers in what we eat and drink. The fruit that we harvest has gone at least ten days without being fumigated. Today everything is*

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

> *more controlled than it was in the past.* (José, 49 years old, Lérida)

For Berta, a former employee of a chemical plant in Tarragona, the best way to avoid risk is to correctly apply the methods for mitigating them generated within the capitalist system itself. Berta expressed a belief that the advancement of industrialism has indeed benefitted the world, and that committing to these advances implies taking on a certain level of risk that industry itself will work to reduce:

> *We know that if we want to progress and evolve we have to take risks. But I think that putting security measures in place will allow everything to go much more smoothly.* (Berta, 63 years old, Tarragona)

Thus, it is clear that some individuals are willing to live with a certain level of risk and accept that this is part of living in an industrialized society. It could be argued, therefore, that every culture constructs notions of "acceptable risk," which makes possible certain benefits deemed desirable by that culture,[30] and what might be considered to be an object of fear or insecurity by some societies might not be by others.[31]

In this sense, Juana – who works as a butcher in her home town in the Province of Barcelona – pointed out that risks are not objective realities, but in large part depend on the customs, eating habits, and ways of life shared by members of a given society at a particular historical moment. For Juana, food risks are comparable to any other type of risk in modern society, which she characterizes as "obsessive" and unnecessarily fearful:

> *It depends on what you are used to and the age you live in … I'm not obsessive at all. I know that the food I eat has preservatives, that it isn't all natural, but why should I obsess over that? I think people shouldn't obsess so much about diseases, about bringing them on themselves, or feeling bad, feeling poisoned. There is no need to obsess over the possibility of half a milligram of mercury in the fish you're eating … Excessive information can bring on unnecessary distress.* (Juana, 51 years old, Barcelona)

Similarly, at another point in the interview Gerard – the flower producer who had previously expressed an opinion on industrially produced food as being unsafe and contaminated – expressed qualms about the economic interests that might be behind the construction of notions of risk. Gerard spoke of the harm done by the media in disseminating and defending the interests of capitalist markets and in controlling the population through discourses on food risk:

> *Television really messes with people's heads. The truth is you don't really know if something has been taken off the market because it was toxic or because the multinational corporation that produced it no longer had interest in doing so. Even so, if they stopped producing it it's because they wanted to sell some other product to make more money and make us all believe that now something else is healthier …* (Gerard, 66 years old, Tarragona)

Are food risks about *how* food is produced and controlled?

A number of informants placed their focus on *how* food was produced. They were more concerned with the *controls* that food products are subjected to – in large part dependent on a *legal framework* that effectively regulates and controls how food is produced and the *production techniques* that are employed. In line with this perspective, one of the primary functions of governments is to regulate and control food production in order to ensure its quality and safety as a public health issue.

Nonetheless, Pedro, Raúl, and Oriol drew a distinction between legal obligations and the real levels of compliance with them. They expressed doubt regarding the effectiveness

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

of institutional controls, in particular those that are regulated by large agroindustrial and pharmaceutical monopolies. Based on his experience as a veterinarian and on the personal relationships he has built with livestock farmers and other veterinarians, Raul acknowledged that certain banned chemical products continue to be used covertly:

> *Growth hormones, clenbuterol, all of these things that have been shown to be carcinogenic. I'm absolutely sure they are still being secretly used. Some of my colleagues can confirm it.* (Raul, 38 years old, Tarragona)

Oriol, who works as a cook in a Barcelona restaurant, also believed that illegal chemical products continue to be used. According to him, this belief is not based on rumors, but on the fact that his uncle – who works in the manufacture of animal feed – has been able to witness this first-hand over the years:

> *I have an uncle that produces animal feed and he's seen others do it. To get a contract to sell feed to a farm, you usually have to offer them more than that. One of those things is that injection they give to cows four or five days before being sold so they won't urinate and will weigh more. It's definitely illegal, but people do it anyway.* (Oriol, 41 years old, Barcelona)

Lastly, Pedro – a member of an ecological association – indicated that in addition to the clandestine use of numerous chemical products, both in agriculture and in animal husbandry problems remain regarding the ways in which pharmaceutical labs manipulate analysis techniques in order to fit their economic interests:

> *The thing is in daily analyses they aren't going to look for all the persistent toxic substances because that would require more specific analyses, and those are a lot more expensive. And our experience indicates that when these things are known they tend to get covered up anyway; the whole issue with nitrates was covered up until there was no other choice but to bring it out into the open.* (Pedro, 56 years old, Baleares)

In fact, studies[32] have indicated that the Spanish food safety system has shown little independence in its actions and has become infiltrated by both political and economic interests that have had the effect of undermining its principal objectives.

Moreover, distrust in the safety of food products may also stem from the limitations of controls used in food processing. With regard to this issue, Raúl (a veterinarian) called attention to the fact that routine analyses conducted to detect toxic compounds do not keep pace with the findings of scientific research, which continually encounter new contaminants. Therefore, legality is not always an indicator of safety:

> *It's clear that controls are in place. But it's the same thing that happens with drug testing; while you're putting routine methods in place to detect a particular substance, new ones are coming out that don't get detected. Besides that every product has an elimination time, and if you respect it the residual amount that remains is either undetectable using current analyses or is low enough for the authorities to tolerate and not outlaw. So they define what they call secure levels, which they put into place because some new substance appears* [...] *So that contaminated lettuce finds its way to my refrigerator and I end up eating it. And it contains some degree of this substance that is legally permitted, but is probably harmful to my health.* (Raul, 38 years old, Tarragona)

It may also be the case that the majority of distrust lies with applied biotechnologies in food production[6,7,9] and people tend to show preference for traditional methods of food production like those used by their ancestors. Gerard, for instance, noted:

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

> *In the past they would tell you that they built hills, mounds, or heated the soil with embers because the soil needed the potash, or that the soil was lacking some microelements and so this or that plant would make the microelements go further. Not anymore. Nowadays you get that by spraying fertilizers … but that comes along with consequences for people's health and for the environment.* (Gerard, 66 years old, Tarragona)

On the other hand, the perception of risk may in fact derive from the limitations of regulation. Regarding this issue, the majority of informants spoke of the diverse and heterogeneous methods for regulating food safety in the different Autonomous Communities of Spain and the countries that foods are imported from. Albert, an engineer working in the food industry, and Gerard explain:

> *There is a kind of paradox because some products are sold in Spain that are not permitted in other countries, and other products are prohibited in Spain but not in other countries. So that makes you think: what is really so bad about this additive E-330?* (Albert, 50 years old, Barcelona)

> *They pass different laws, for example in the Province of Almería, from those in Murcia … Another problem is when something arrives from Morocco, because if they don't carry out the necessary controls and certain toxic products are permitted …* (Gerard, 66 years old, Tarragona)

Lastly, cases like those of José (rancher and farmer from Lérida) and Albert (industrial engineer from Barcelona) brought to the fore perceptions that contradict these perspectives. They believed current legislation has made progress in terms more exhaustive and effective food safety controls:

> *The controls in place are very strict. With the Single Agricultural Declaration they know exactly what varieties I grow on my farm and where each one is located … they know everything. We have constant inspections. We are hyper-controlled. You have to have some faith, but the system does work.* (José, 49 years old, Lérida)

> *There are controls and they are strict. Normally the regulations are effective* […] *You can't make a product that is unsafe because they will recall it.* (Albert, 50 years old, Barcelona)

Are food risks about *amount*? Dosage, accumulation and incorporation

Perceptions regarding food contamination are also shaped by the relationship that individuals establish between notions of *dosage-quantity-accumulation* and the *length of exposure*. Some authors have suggested that individuals tend to perceive certain negative qualities of food without taking into consideration the quantity consumed, given that they classify certain foods as *bad for you* regardless of how much is consumed.[33,34] Nonetheless, this was not the case for Luisa (food technician), José (rancher and farmer), and Albert (industrial engineer). For them, a particular food cannot be considered beneficial or harmful to one's health without taking into account the length of exposure or of the quantity of harmful substances ingested:

> *Food production that uses more and more E's* [additives] *or preservatives, flavoring agents … I think that's where the most risk could potentially come from. But the exposure is most likely going to be low. We're talking about very low doses, but we eat three times a day throughout our entire lives.* (Luisa, 35 years old, Barcelona)

> *If you ate a pear that was in contact with pyrethrin four days ago, I doubt your body would feel the effects. Now, if you*

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

> *eat one every day … I do think that can leave traces in your body and in the long run cause problems*. (José, 49 years old, Lérida)

> *Eating one doughnut won't do much harm, but eating a half-dozen every day is a problem. But it can also be a problem if you eat a pound of meat every day, even if it's organic.* (Albert, 50 years old, Barcelona)

In this type of narrative, the *body* is often seen as a *receptacle*[24] which is filled with certain quantities of harmful substances that may leave traces and over time produce negative effects on health. In this sense:

> The idea of dosage is not only understood diachronically, in terms of a long-term trajectory, but it is also understood in synchronic terms, related to the daily consumption of food. In principle, this would mean that by consuming small doses of food contaminants, long-term accumulation would be lower.[24]

In other cases, dosage, accumulation, and length of exposure to certain foods are thought of in the long term. Therefore, due to the fact that individuals believe that disease will most likely occur long after consumption, the concern regarding the consequences of said consumption is generally negligible.[24] This was evidenced in the perspective of Juana, an employee of a Barcelona butcher shop, who summarized: "*if I decide to eat a hot dog today, well … nothing will happen to me.*"

This notion of the body as a receptacle was also evident in Juana's narrative, but the consequences of the accumulation of harmful substances were not conceived of as a probable cause of disease. On the contrary, she understood the human body as a receptacle capable of adapting to, assimilating, and even *neutralizing* the possible negative effects of toxic compounds and contaminants in food:

> *I think that our bodies adapt to the junk that we put into them. So, I mean …* [laughs] *it's like we become immune to certain things after a few generations*. (Juana, 51 years old, Barcelona)

Juana's narrative, in which the *ability to become immune* to the effects of contaminants or potentially harmful substances revealed how biomedical discourses may be reinterpreted in lay discourses, in direct opposition to the stated aims of public health policy, which generally seek to raise awareness of and prevent the dangers associated with food contaminants. Additionally, it confirms the idea that equipping individuals with more accurate information does not necessarily lead to the modification of their behaviors related to food consumption.[31,35]

On the other hand, we have observed that *the experience of health and disease* tended to have an effect on how individuals understood and experienced their bodies with respect to food risk and health. The case of Marcos was particularly telling in this regard. A former ceramic industry worker, Marcos drastically altered his nutritional habits and lifestyle due to his experience with Chron's disease. His experience with the disease, as well as the negative effect it had on his chances in the job market, were determining factors in the progressive transformation of his views on food risk. This transformation led Marcos to develop a more integral and holistic view of health, and by extension an entirely different way of understanding the world, the body (physically, spiritually, and socially), and a lifestyle more in touch with the environment. Marcos and his partner eventually moved to a rural community and became self-sufficient through organic farming.

Are food risks about *who*, *for whom*, or *where* food is produced, distributed, or prepared?

Many informants expressed concern regarding the multiple means by which food comes into contact with toxic substances or

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

contaminants: the water used to irrigate crops, the air they are in contact with, or the soil they are grown in. This may be a motivation that leads many individuals to purchase food from *sources they trust: "my neighbor has a little orchard and I know she doesn't use pesticides;" "the vendor I know that sells at the farmer's market on Wednesdays always brings the best vegetables;"* and so on. In these cases, the food or produce itself is not scrutinized, but rather *where* it came from and *who* produced it. The fact that food is *locally grown* and the *proximity to the producer* are the criteria that inspire confidence in its production and distribution processes.

Nonetheless, perceptions of risk regarding a particular product are not only dependent on the proximity to the production facility, but may be related to the location of the production facility itself; certain locations conjure up feelings of trust or distrust. In this sense, although it may seem like a contradiction, some informants expressed preference for industrially produced food in certain cases where "naturally" produced food came from less industrialized countries. Jaime, a farmer and member of an agricultural cooperative in Tarragon, provided this account:

> *I especially don't trust products that come from countries with a lower standard of living than ours. I always say that if we were to only eat seasonal and locally-grown products we would avoid a lot of problems*. (Jaime, 60 years old, Tarragona)

Discourses like these reveal how *otherness, social and physical distance*, and categories such as *known/unknown* or *local/foreign* play a part in the social construction of food risk.

Lastly, perceptions of food risk may also vary depending on *for whom* the product in question is prepared. An example of this mindset was provided by Laura, a biologist and mother of one, who owns an organic food business. She explained that she first became conscious of organic food during her pregnancy, and continued to look into it as she began to take on a sense of responsibility for her daughter's nutrition. Her ideas regarding the *pregnant body* formed the basis for her transition to organic products, which she considered to be more natural, healthy, and free of contaminants. She read scientific literature on the topic and exchanged information with other mothers, eventually modifying her point of view on nutrition, integrating her ideas about health and the body with a more holistic notion of nutrition. She began to understand the body not only as a receptacle that accumulates toxic substances, but as an active *being* in relation to its environment that is able to avoid and adapt to the risks surrounding it, because in her words:

> *What we eat is extremely important because everything that surrounds us is constantly absorbed and incorporated by the body*. (Laura, 35 years old, Barcelona)

DISCUSSION AND CONCLUSIONS

The purpose of this study was to analyze social perceptions regarding food risks present in lay narratives among residents of Catalonia. Focus was placed on *what* foods were perceived as dangerous as well as on *how*, *when*, *where*, *why*, and *in what manner* the experiences of informants shaped their understanding of these risks.

Generally speaking, it was found that the social construction of food risk is a complex, multifaceted process. It is a process that combines diverse and at times contradictory elements, which may directly confront expert knowledge – primarily based on biotechnological and macroeconomic aspects of food – with lay discourses, which are influenced by a wider range of historical, individual, cultural, and symbolic factors.

Therefore, perceptions of *food contamination* are not only shaped in response to the food product itself, but also with respect

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

to the context around it. Food may be considered safe or unsafe in and of itself, but ideas regarding its safety or lack thereof will be largely defined by how it is produced (by whom, where, and in what manner) or for whom it is produced, distributed, and prepared. In this sense, perceptions regarding food risk are not only constructed on the basis of a biomedical vision of physical, chemical, or biological modifications to food (for example, through the use of additives, pesticides, or hormones), but also in terms of individual, social, and political conceptions of the body.

Consequently, this study illustrates how debates regarding perceptions of food risk cannot be reduced to a question of whether or not industrial progress is beneficial, nor can they be reduced to simplistic dichotomies regarding food as *good or bad, dangerous or safe, contaminated or untainted, artificial or natural*, or *industrially produced or organic*, given that some individuals may perceive industrially produced food as safer in certain cases. Similarly, several informants cast doubt on the idea that *natural* was indisputably favorable, and some even questioned the safety of organic food. Other informants concluded that food risk is a product of political and economic interests, while still others believed that it had more to do with social and cultural habits, some even referring to it as a *modern-day obsession*.

Furthermore, it was shown how perceptions of food risk are also based on *how* food is produced, particularly with respect to the legal framework that regulates and controls food production and the real levels of compliance with them, as well as the production methods and controls to which food is subjected. Nonetheless, some informants were equally convinced of the effectiveness of industrial controls and the safety of production methods, and therefore presumed the *inexistence* of threats to public health inherent in the production process, and by extension an absence of food risk caused by this factor.

Some results have suggested that the symbolic and social construction of trust-distrust regarding food are based on notions of otherness, the known and the unknown, and the physical and social distance perceived in relation to the locations in which food is produced, distributed, or prepared (*who, where, for whom*). Moreover, some informants made connections between notions of the body, risk, and nutrition in which ideas regarding dosage-accumulation-length of exposure to contaminated food (*how much* risk there is) reveal a perspective that considers the *body as a receptacle*[24] that accumulates toxic substances which can over time produce disease. Nonetheless, other informants believed that these contaminants would not inevitably lead to disease given that the body is also capable of *adapting to, assimilating*, and even *neutralizing* the possible negative effects of toxic compounds in food.

The results of this study seem to indicate two arguments stemming from the analysis and interpretation of the narratives collected, despite not being directly addressed in the research process. On the one hand, the recognition and acceptance of certain risks associated with living in a highly industrialized society seem to suggest that each culture constructs specific notions of "acceptable risk" that makes possible certain benefits deemed desirable by that culture;[30] therefore, what might be considered to be an object of fear or insecurity by some societies might not be by others.[31] On the other hand, the individual, social, and political body[17] has emerged as a point of reference for the construction of contemporary perceptions of food risk. The body is not only considered a passive *object* (or receptacle) that accumulates toxic substances, but also an active *subject* in the construction of notions of what is safe and unsafe in terms of nutrition and food.

Lastly, the inherently complex processes entailed in the construction of perceptions of food risk inevitably lead us to reflect on the need to rethink and apply diverse theoretical and methodological frameworks that can account for this complexity. In this sense, it is necessary to develop theoretical and methodological tools that are capable of surpassing reductionist perspectives and can adequately account for the inherent relations among

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

conceptions of the body, nutrition, risk, and health. Additionally, *inclusive* policies are necessary in order to incorporate the diversity of lay discourses along with their historical, economic, and socio-political construction. This is crucial in order to assure that individual subjects are not solely considered passive agents who uncritically consume information, but rather they are active agents – with sufficient individual, social, and political *competency* – in the process of (re)*constructing* a better and safer *natural* and *social* world.

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REFERENCES

1. Agencia Catalana de Seguridad Alimentaria. Barómetro de la seguridad alimentaria en Cataluña. Barcelona: Departament de Salut de la Generalitat de Catalunya; 2012.

2. Apfelbaum M. (dir.). Risques et peurs alimentaires. Paris: Odil Jacob; 1998.

3. Bredahl L. Consumer's cognitions with regard to genetically modified foods: Results of a qualitative study in four countries. Appetite. 1999;33:343-360.

4. Chateauraynaud F, Torny D. Surveiller et contenir: un monde peuplé de prions. En: Chateauraynaud F, Torny D, (eds.). Les sombres precurseurs:

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

Une sociologie pragmatique de l'alerte et du risque. Paris: Éditions de l'Ehess; 1999.

5. Latouch K, Rainelli P, Vermesch D. Food safety issues and the BSE scare: some lessons from the French case. Food Policy. 1999;23(5):347-356.

6. Butz P, Needs EC, Baron A, Bayer O, Geisel B, Oltersdorf U, Tauscher C. Consumer, attitudes to high pressure foodprocessing. Journal of Food, Agriculture and Environment. 2003;1(1):30-34.

7. Gaskell G, Ten Eyck T, Jackson J, Veltri G. Imagining nanotechnology: cultural support for technological innovation in Europe and the United States. Public Understanding of Science. 2005;14(1):81-90.

8. European Commission. Eurobarometer 66. Public opinion in the European Union. [Internet]. 2006 [cited 10 Feb 2016]. Available from: http://tinyurl.com/y4f4b2a.

9. Cáceres J, Espeitx E. Les noves tecnologies aplicades a l'alimentació: factors d'acceptació i rebuig a Catalunya [Internet]. Barcelona: Agència Catalana de Seguretat Alimentaria, 2012 [cited 30 Mar 2016]. Available from: http://tinyurl.com/hkjddho.

10. Fundación Vasca para la Seguridad Agroalimentaria. Estudio de percepción en seguridad alimentaria en la comunidad autónoma del País Vasco [Internet]. País Vasco: Gobierno Vasco; 2012 [cited 20 Feb 2016]. Available from: http://tinyurl.com/jnvfyoa.

11. Slorach SA. Enfoques Integrados para la gestión de la inocuidad de los alimentos a lo largo de toda la cadena alimentaria. En: Foro Mundial FAO/OMS de las Autoridades de Reglamentación sobre Inocuidad de los Alimentos; Marrakech, Marruecos, 28-30 de enero de 2002 [Internet]. GF 01/10 [cited 27 Sep 2016]. Available from: http://tinyurl.com/zdjpv6b.

12. Organización Mundial de la Salud. Temas de Salud: Inocuidad de los Alimentos. [Internet] 2016 [cited 26 Sep 2016]. Available from: http://tinyurl.com/jys5hh4.

13. Douglas M. Pureza y peligro: Un análisis de los conceptos de contaminación y tabú. Madrid: Siglo XXI Editores; 1973.

14. Lupton D. Risk. London: Routledge; 1999.

15. Oaks L, Harthon BH. Health and the social and cutural construction of risk. In: Harthon BH, Oaks L, (eds). Risk, culture, and health inequality: shifting perceptions of danger and blame. Westport CT: Praeger; 2003.

16. Jensen M, Blok A. Pesticides in the risk society: The view from everyday life. Current Sociology. 2008;56(5):757-778.

17. Sheper-Hughes N, Lock M. The mindful body: A prolegomenon to future work in medical anthropology. Medical Anthropology Quarterly. 1987;1(1):6-41.

18. Confederación de Comercio de Catalunya [Internet]. 2006 [cited 23 Jan 2015]. Available from: http://www.confecom.cat.

19. Foucault M. Vigilar y castigar. Madrid: Siglo XXI Editores; 1992.

20. Glaser BG, Strauss AL. The discovery of grounded theory: strategies for qualitative research. Chicago: Aldine Publishing Company; 1967.

21. Strauss AL, Corbin J. Basics of qualitative research: grounded theory procedures and techniques. Newbury Park: Sage Publishing; 1990.

22. Medina FX. El color de la tradición: Color y construcción del pasado en la publicidad alimentaria. En: Barusi A, Medina FX, Colesanti G. El color en la alimentación mediterránea: Elementos sensoriales y culturales de la nutrición. Barcelona: Institut Català de la Mediterrània; 1998.

23. Fischler C. El (h)omnívoro. Barcelona: Anagrama; 1995.

24. Guidonet A. ¿Miedo a comer?: Crisis alimentaria en contextos de abundancia. Barcelona: Icaria y Observatorio de la Alimentación; 2010.

25. Rozin P, Fischler C, Shields-Argelès C. European and American perspectives on the meaning of natural. Appetite. 2012;59(2):448-455.

26. Rozin P. La préférence pour le natural. In: Fischler C, Masson E. Manger: Français, Européens et Américains face à l'alimentation. Paris: Odile Jacob; 2008.

27. Baranski M, Srednicka D, Volakakis N, Seal C, Sanderson GB, Steward R, Bebrook C, Biavati B, Markellou E, Giotis C, Gromadzka J, Rembialkowska E, Skwarlo K, Tahvonen R, Janovská D, Niggli U, Nicot P, Leifert C. Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops: A systematic literature review and meta-analysis. British Journal of Nutrition. 2014;112(5):794-811.

28. Mulet JM. Los productos naturales ¡vaya timo! Pamplona: Editorial Laetoli; 2011.

SALUD COLECTIVA. 2016;12(4):505-518. doi: 10.18294/sc.2016.932

29. Begueria A. Un equilibrio imperfecto: Alimentación ecológica, cuerpo y toxicidad. Barcelona: Editorial UOC; 2016.

30. Peretti-Watel P. Sociologie du risque. Paris: Armand Colin; 2000.

31. Contreras J, Gracia M. Alimentación y cultura: Perspectivas antropológicas. Barcelona: Ariel; 2005.

32. Ponce G, Muñoz E. La percepción de los actores de la seguridad alimentaria. Arbor. 2005;715:393-402. doi: 10.3989/arbor.2005.i715.420.

33. Fischler C. Raison et déraison dans les perceptions des risques alimentaires. Cahiers de Nutrition et de Diététique. 1998;33(5):297-301.

34. Fischler C. Food selection and risk perception. In: Anderson HB, Chiva M. Food selection: From genes to culture. Levallois-Perret: Danone Institute; 2002.

35. Zafra E. Comer en la escuela: el modelo de educación alimentaria en el comedor escolar. Revista Trabajo Social y Salud. 2005;51:361-382.

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