

Beijing Citizens' Perception of Risk on Food Safety*

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Abstract: The report is based on the statistics from a questionnaire survey among Beijing citizens, which thoroughly describes the status quo of Beijing citizens' perception of risk on food safety. The results show that at present, the strongest risk perception of the masses is on "fake food". They know more about the risks of "fake food" and "stale food" rather than that of "pesticide residues in food" and "food additives". Beijing citizens think the dangerous risk of food safety is high likely to occur, and about one third of them are unsatisfied with the current situation, which is mainly attributed to lack of management. It is appeared from evidence that the perception of risk and its actual allocation in modern times is quite different from that of the traditional society, at least in modern metropolis like Beijing. This probably implies that China, to some extent, is stepping into a "risk society".

Keywords: food safety, risk perception, Beijing citizens, risk society

1. General introduction of the "survey on citizens' perception on food safety"

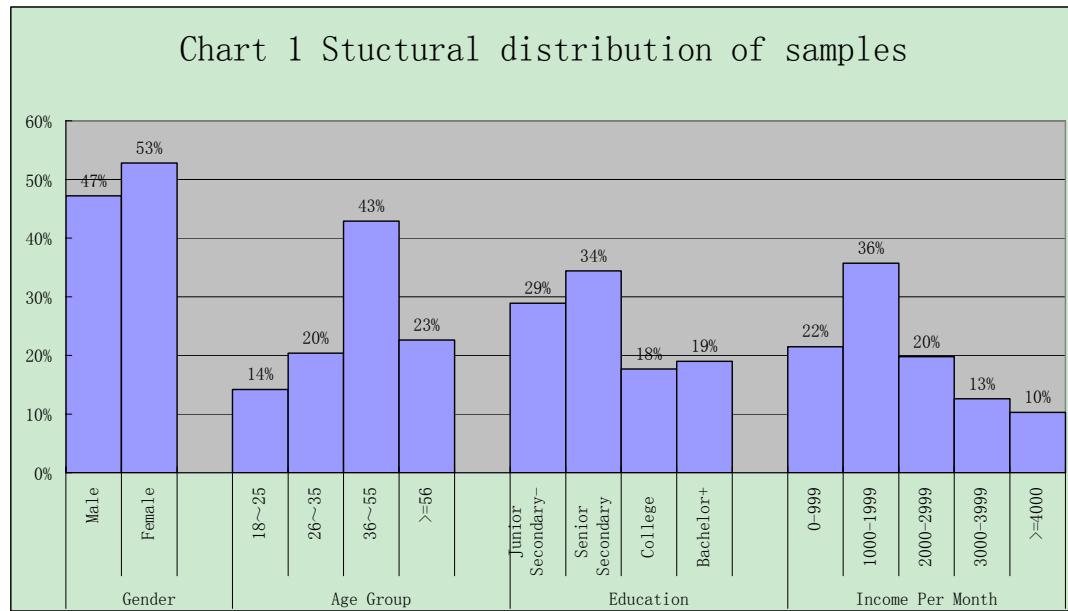
Food safety is a significant issue related to public health, the national economy and livelihood of the masses and it is also an important signal to show the development level of national economy and the quality of peoples' live. In recent years, Chinese government has paid high attention on the frequent happening events regarding to food safety. In August 2007, for the first time, the government issued

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China's White Paper on Food Quality and Safety, thoroughly describing the status quo of Chinese food production and quality, the supervision, legal and technical support system on food safety, and the international exchange and cooperation. Food safety problems lie in the whole process from farmland to eating tables, connecting each sector from production, transportation to trade, and containing uncountable risk sources and dangers, therefore, in any country, it is quite a complex task not easy to control or manage, which is not only related to various factors such as policy, management, science, technology and media, but also related to the understanding, attitude and anticipation of the masses.

At present, several research on food safety already exists, but rare of them are starting from the subjective perception of risk. In order to further understand the real attitudes and feelings of Chinese citizens on food safety, National Research Center for Science and Technology for Development, the predecessor of Chinese Academy of Science and Technology for Development, Ministry of Science and Technology of China conducted several rounds of sampling household survey on food safety perception of the masses respectively in Xiangtan, Hunan Province, July 2007 and in Beijing, September 2007. Based on statistics of the questionnaire survey, this paper is a concentrated reflection of Beijing citizens' perception of risk on food safety.

In Beijing, we chose permanent residents in the city as our survey objects, randomly sampling 50 communities out of the total 2018 communities eight districts, then 50 households from each community, and finally sampling, by "kish sheet", one person of each household as the objects. We collected 987 valid questionnaires, with a percentage of 46%. Chart 1 reflects the structure of the sampling survey.



2. Conceptions and theoretical hypotheses related to this research

2.1 Relevant definitions and opinions on risk perception

Since the recent two decades, people have paid more attention on the word of “risk”. Generally speaking, “risk” means a kind of danger that people do not want to see, and it is usually connected with a kind of possibility that the unwanted negative consequences might occur as a result of natural process or human activities^①. In traditional society, natural disasters like flood and earthquake was concerned as the major sources of risk, however, in modern society, hazards resulted from technology has taken the place. Beck Ulrich, a German sociologist, once pointed out that with the trends of times and the rapid development of science and technology, the risks that people facing has witnessed great change and has radically altered the operation logic, motivation and basic structure of the industrial society, which has made the human society towards a new modernity, the “risk society”^②. In recent years, Chinese researchers and policy makers have realized from a series of event that China has to face plenty of challenges because of the existed risk society.

^① Ortwin Renn, Bernd Rohrmann. Cross-cultural Risk Perception: A Survey of Empirical Studies. (Chinese Edition 2007) Beijing : Beijing Publishing House.

^② UlrichBeck. 1992. Risk Society: Toward a New Modernity. London: Sage Publications.

A major characteristics of the modern risk is “constructivism”, that is to say, there is no pure “objective” risk, and human being can “form” the modern risk to a large extend depending on their subjective perceptions and imaginations. Consequently, many researchers begin to explore the perception of risk and its impacts, and they have got abundant achievements. Perception of risk indicates people’s opinions and attitudes on the existing or potential source of risk that might influent their lives. In a wider point of view, the perception of risk covers nearly all the aspects of risk estimation and evaluation, including people’s judgment on the probability and scale of risk, size of danger, time duration and acceptance degree of the outcome^③. If we integrate all these judgments, we can find out an overall risk perception of the society, which is not only a kind of knowledge, but also a kind of social psychology. To a great extent, people’s perception of risk determines their future behavior. According to the viewpoint of risk society theory, compared with the physical consequence, the psychological consequence of risk society might be more significant to human behavior. Therefore, studying on people’s perception of risk has special meaning to both understanding human behavior and making relevant policies^④.

The perception of risk is a subjective definition set by human being who has been influenced by psychology, society, system, culture and so forth, just like what is said in the psychological measurement paradigm, and it is closely related to many factors such as people’s age, knowledge, experience, habit, economic and social status, characteristics, and belief and so on. Now we are going to talk about various personal and social factors that influence Beijing citizens’ perception of risk on food safety of our country, and trying to understand risk issues of Chinese society through this study.

2.2 Dimensions to classify food safety risks and the corresponding perceptions

We have stated in the former introduction that for better understanding, it is

^③ Paul Slovic. The Perception of Risk. (Chinese Edition 2007) Beijing : Beijing Publishing House.

^④ Ortwin Renn, Bernd Rohrmann. Cross-cultural Risk Perception: A Survey of Empirical Studies. (Chinese Edition 2007) Beijing : Beijing Publishing House.

necessary to classify the perceptions of risk according to various dimensions. From existed studies we can find that such dimensions mainly include the level of the risk, quality features, benefit, and probability of acceptance and so on, with the felt size of the risk as the most important variation. Quality features of the risk mainly cover the degree of the sense of fear (worry), familiar/unfamiliar, observable/unobservable (outcome), controllable/uncontrollable, immediately/continuously happening, short/long term, scientifically known/unknown, etc.^⑤ Based on existed studies, we will observe and study the risk perception of the masses from the following 5 aspects and 8 dimensions. First, the importance of the possible outcomes of the risk event (including its impact on both individual and society); second, the duration for the possible outcomes to appear; third, the masses' emotional reaction on the risk (be fearful or worried); forth, the masses' confidence on food safety, whether it is already known by science and whether we are capable to handle these issues; fifth, the acceptance of the individual after considering all the possible risks and benefits.

“Food safety” is a general conception, covering various kinds of risks from production to consumption. According to relevant rules set by Food and Agriculture Organization of the United Nations, five types of dangers infecting food safety, i.e. microorganism, pesticide residues, food additives, biochemical toxins, and fake food^⑥. Considering such a classification, in this research we divide food risks into four types: “stale food”, “fake food”^⑦, “pesticide residues in food” and “food additives”. The risk of “stale food” refers to diseases might be caused by microbiological or chemical polluted food. The risks of “pesticide residues in food” and “food additives” tent to be a kind of chemical pollution, mainly because of the misuse of pesticides and additives. As for “fake food”, although it is more likely to be a management issue, we still have to consider it as a type of food risk, since fake food is always connoted with low quality and poor health. However, the risk of “fake food” is much more

^⑤ Ortwin Renn, Bernd Rohrmann. Cross-cultural Risk Perception: A Survey of Empirical Studies. (Chinese Edition 2007) Beijing : Beijing Publishing House.

^⑥ FAO,WHO. 2003. Assuring food safety and quality. Guidelines for strengthening national food control systems.

^⑦ Strictly speaking, stale food is different from fake food, while in real life, they are always connected with each other, and the masses usually have no means to exactly distinguish “A” from “B”, which can just show the uncertainty of risks. Therefore, in this research, we consider the two of them as one type.

complicated, because it might come from procession or materials, and it might be microbiological, chemical or even physical polluted risk. In retrospect, “stale food” and “fake food” have always been threatening people’s health since the agricultural society; while “pesticide residues in food” and “food additives” are newly emerged after the industrial revelation, with the trend of S & T upgrading and industrialization. Here after, we are going to analyze the masses perception of these four types of risks in terms of different dimensions.

3. The comparison of Beijing citizens’ perceptions on different types of risks on food safety

3.1 The citizens have strong perceptions on consequences of the four types of risks on food safety, especially the feeling of mentally threatened and lack of safety on food.

We have observed and studied the citizens’ perceptions on consequences of the risks from two aspects, one is their judgment about the influence on themselves and their families, and the other is their judgment about the influence on the whole society. For individuals, the former one is more visible, but more subjective at the same time, which shows their true feeling on risk. In comparison, the latter one is more objective. These two indicators have a theoretical connection to some extent; nevertheless, the connection might be different when being implied to different individuals.

From the average score of dimension A and B in Table 1, we can find out a coherence between the influence of the food safety risk on individuals and society, with a sequence from “fake food”, “pesticide residues in food”, “stale food” to “food additives”, in terms of the influence degree, from high to low. All the scores are above 4, and the scores for “fake food”, “pesticide residues in food” and “stale food” are nearly or over 4.5, with an average level approximating serious consequence. The results show that there is an obvious mental influence of food safety issues on the masses, especially for fake food and pesticide residues in food. Relevant departments of the government should pay great attention to these issues.

Table 1 dimensions of citizens' perception of different types of risks on food safety

QUESTIONS	STALE	FAKE	PESTICIDE-RESIDUES	ADDITIVIES
A.actual influence on the health of individuals (1=basically no influence, 5=great influence)	4.48 (0.98)	4.62 (0.84)	4.54 (0.82)	4.06 (0.96)
B.influence on the whole society (1=slight, 5=serious)	4.48 (0.81)	4.65 (0.65)	4.58 (0.70)	4.04 (0.98)
C.duration for the consequence to appear (1=appear immediately, 5=appear after a long time)	2.24 (1.48)	2.65 (1.31)	3.32 (1.15)	3.71 (0.97)
D. The degree of fear (1=not fearful at all, 5=rather fearful)	4.77 (0.57)	4.80 (0.53)	4.80 (0.48)	4.34 (0.91)
E. The degree of worry (1=indifferent, 5=worry a lot)	4.80 (0.51)	4.82 (0.49)	4.81 (0.48)	4.38 (0.86)
F. Knowledge of science on the risk (1=no knowledge at all, 5=full knowledge)	4.62 (0.66)	4.52 (0.77)	4.44 (0.76)	3.95 (0.99)
G. The degree of control from the society (1=totally uncontrollable, 5=totally controllable)	4.25 (1.03)	3.73 (1.41)	3.56 (1.32)	3.59 (1.31)
H. The degree of acceptance from the individual (1=totally unacceptable, 5=totally acceptable)	1.33 (0.88)	1.31 (0.83)	1.59 (0.98)	2.08 (1.10)

Note: numbers in the table are the average scores based on 5 degrees, with the standard deviation in brackets.

3.2 In terms of duration, the citizens' perceptions are quite different, among which, the consequence of “stale food” will immediately appear while that of “pesticide residues in food” and “food additives” will take a relatively longer period of time.

The judgment on duration of the possible consequences to appear indicates people's opinion on the risk, whether it is an instant one or a hidden and long-term one. We have found out during the research that for this issue, people's judgments on four types of risks are quite different (more information refers to the scores of Item C in Table 1). From the statistics we can figure out that the people think the consequence of “stale food” appears most rapidly, and then comes that of the “fake food” and consequences of the other two types takes a relatively longer period of time to appear. It is obvious that in the citizens' minds, the consequences of pesticide residues in food and stale food are quite concealed and take a long time to be found out.

3.3 The citizens seriously worry about all the four types of risks on food safety, particularly the “fake food”.

As regards the emotional reactions to the risk, the degree of fear and the degree of worry are two different while correlated dimensions, with the former one showing a more objective judgment on the reality and the latter one showing a more subjective feeling about the risk. From statistics of Item D and E in Table 1 we can see that the citizens seriously worry about all the four types of risks, with an average score of about 4.8, except for a 4.3 score in terms of “food additives”. Additionally, either for “fear” or “worry”, the order of the degree from high to low is quite consistent, namely, from “fake food”, “pesticide residues in food” and “stale food” to “food additives”. Therefore, the feelings of fear and worry are similar when showing the perception on risk.

3.4 The citizens feel optimistic about the ability of the society to understand food risks from science and technology and that to control the risk.

The abilities to understand food risk from science and technology and that to control risk are two different but correlated indicators and the latter one is largely based on science and technology as well. However, a sufficient understanding from science and technology does not necessarily lead to a well control, which is much related to management and social environment besides scientific knowledge. Item F and G in Table 1 respectively shows the opinion of the masses, with the results indicate that the citizens highly rely on scientific knowledge to understand food risks, especially the risks of “stale food”, “fake food” and “pesticide residues in food”, with an average score of about 4.5, approximating to full knowledge. While as regard to “food additives”, there is a lower confidence, with the score of less than 4. Compared with the citizens’ confidence in understanding risks from science, their confidence in controlling risks is weaker. Only the confidence in controlling “stale food” gets an average score of 4, the other three are all below 4, with a general level of comparatively confidence. Generally speaking, the citizens have more confidence in understanding and controlling the risk of “stale food”, and then the risks of “fake food” and “pesticide residues in food” and finally the risk of “food additives”.

3.5 The citizens show a low acceptance rate on the four types of risks, however, with a relatively higher rate on risks of “pesticide residues in food” and “food additives”.

The acceptance of risk is one of the important studying areas of the perception of risk. It is generally supposed that people’s acceptance of risk is a reasonable calculation, a cost-benefit function. However, things are not so easy, and there are many other infectious characteristics.^⑧ From Item H of Table 1 we can see that the citizens show a low acceptance rate on the four types of risks. The scores of risks on stale food and sake food are lower than 1.5, which approximate “totally unacceptable”;

^⑧ Sheldon Krimsky , Dominic Golding. Social theories of risk. (Chinese Edition 2005) Beijing : Beijing Publishing House.

and the scores of risks on “food additives” is relatively higher, with an average of above 2. Generally speaking, Beijing citizens are more tolerant of risks on food additives and pesticide residues in food, which are mainly caused by technology; in contrast with the risks on stale and fake food mainly caused by management.

3.6 In general, the citizens’ perception of the risk on “fake food” is the strongest one and the factors of social and economical structure and individual background have only slight influence on the perception of risk.

To conclude, we can find out that the citizens’ perception of the risk on “fake food” is the strongest one, with the highest degree of importance, fear and worry, and the lowest degree of acceptance. Therefore, in policy making, the government should realize it and make a relevant amendment on policies for a better administration and education.

To further analyze the connection between the perception of risk with social and individual factors, we have added up the scores on the four types of risks and got the total score of each of the 8 dimensions. With the analysis on total scores of the 8 different dimensions and the relevant variations of individual background, we have found out several diversities as follows.

In the dimension of actual influence, diversities exist among groups of people with different economic status. Being divided into five groups, the group of people with lowest and the highest incomes feel of great influence of food risks, while people with medium-sized income feel of slight influence. However, a different result will come out interestingly if we group people according to consumption abilities. The group of people in “poverty” think they suffer the greatest influence of food risks, and those who lead a moderately “well off” life feel of a large amount of influence as well. There is no doubt that people with poor economic status have the greatest perception of the actual influence of food risks, but those with medium or higher level of economic status are still need to be understood.

As regards the influence of the risks on the whole society, people of different age and marital status think differently, and the elder or married ones tend to think it more

serious. It seems to indicate that with the growth of age, people are more likely to have overall points of view, thinking more about the whole society, and the feeling of people who are married might also be quite related to the age.

Concerning the feeling of fear, mid-aged people and married people feel more fearful of the risks, which is mainly because that they undertake much heavier responsibilities on their families and the society. In light of income, people with the highest and lowest income feel most obvious of the influence of the risks, but not fearful; while people with the medium level of income have the converse feeling.

When asked whether the risks are controllable or not, people with different educational background have different perceptions, which can also be explained in a “U”-shaped curve. The groups of people with higher and lower educational background, especially with bachelor’s degrees or above, tend to think the risks controllable; while those with medium-level of educational background feel less confident.

Except for dimensions mentioned above, people with different social background may also feel differently according to other dimensions of judgment, and some of the infectious factors are not quite related to each other.

4. The overall image of Beijing citizens on the current issue of food safety

Except for the comparison study among different types of perception of food safety risks, we still want to know their overall image on the risks of food safety, compared with that on other natural or social risks. During the survey, we have asked interviewees to judge the possibility of occurrence of 15 types of risks and their harmfulness by the method of five degrees marking, and found out results as follows.

4.1 The citizens’ attitudes on occurrence possibility and social harmfulness of food safety events are highly consistent.**Error! Reference source not found.**The statistics in Table 2 display that nearly 80% of the interviewees marked the highest score of 5 on the harmfulness and nearly 17% marked 4, with a total percentage of over 96%. That means Beijing citizens consistently think food safety events will bring great harmfulness to the whole society.

Table 2 Beijing citizens' attitudes on the possibility of occurrence and the harmfulness of food safety events (unit: %)

QUESTIONS	SCORES					TOT-AL
	1	2	3	4	5	
How do you think the harmfulness that food safety events will bring to the whole society?	0.0	0.2	3.5	16.9	79.4	100.0
Do you think food safety events are likely to occur in recent times?	2.4	12.2	18.2	32.7	34.4	100.0

Note: the five degrees of scores in the table means different degrees of harmfulness on the society, namely, “1” means basically no harm, “5” means great harm. As for the possibilities of occurrence, “1” means basically will not occur and “5” means quite likely to occur.

As regards the possibilities of occurrence, people who have marked “5” accounts for a percentage of 35%, and a 33% on “4”. From these statistics we can see that over two thirds of citizens think the food safety event is likely to happen in Beijing recently, and only 14.6% of them think oppositely. People in deferent age, sex and marriage status and with different educational background and incomes have similar opinions as well. In other words, Beijing citizens' attitudes on the occurrence possibility and social harmfulness of food safety events are highly consistent.

4.2 Among the 15 types of risks in the survey, the one on food safety rank among the forefront, not only in the possibility to happen, but also in the harmfulness, which means people think it seriously.

We can figure out from Table 3 that the average social harmfulness scores of the 15 types of risks are above 4.4, and the score of each type is very close to others. Risks that will cause serious injury or death, like “nuclear leak”, “unknown epidemics”, “earthquake” and “terrorist attack” are highlighted, with a relatively low point of standard deviation. It is interesting that for those which get high marks in the degree of social harmfulness tend to get low marks in the degree of the possibility of recent occurrence.

Table 3 the order of possibility of recent occurrence and social harmfulness of different types of risk event

THE DEGREE OF SOCIAL HARMFULNESS			THE DEGREE OF THE POSSIBILITY OF RECENT OCCURRENCE				
	Order	Average score	Standard deviation		Order	Average score	Standard Deviation
1	Nuclear leak	4.93	0.35	1	Continuously growing house prices	4.42	0.81
2	Unknown epidemics	4.89	0.38	2	Expanding gap between the wealthy and poor	4.35	0.83
3	Earthquake	4.89	0.45	3	Traffic accidents	4.33	0.85
4	Environmental pollution	4.83	0.44	4	Environmental pollution	4.03	1.10
5	Terrorist attack	4.79	0.55	<u>5</u>	<u>Food safety events</u>	<u>3.85</u>	<u>1.10</u>
<u>6</u>	<u>Food safety events</u>	<u>4.75</u>	<u>0.52</u>	6	More and more difficult to see a doctor	3.69	1.33
7	Social turmoil	4.72	0.60	7	Security accidents in production	3.62	1.04
8	Traffic accidents	4.7	0.61	8	Major crimes	3.00	1.17
9	Major crimes	4.69	0.63	9	Lack of energy	2.93	1.35
10	Lack of energy	4.65	0.62	10	Economic turmoil	2.89	1.20
11	Economic turmoil	4.65	0.63	11	Unknown epidemics	2.64	1.32
12	Security accidents in production	4.63	0.62	12	Social turmoil	2.31	1.29
13	Continuously growing house prices	4.47	0.80	13	Terrorist attack	1.99	1.22
14	More and more difficult to see a doctor	4.45	0.85	14	Earthquake	1.56	0.83
15	Expanding gap between the wealthy and poor	4.45	0.87	15	Nuclear leak	1.49	0.88

Note: the average score is based on the five degrees of scores. In terms of “the degree of social harmfulness”, “1” means basically no harm, “5” means great harm, and in terms of the possibilities of recent occurrence, “1” means basically will not occur and “5” means quite likely to occur.

Beijing citizens averagely mark 4.75 on the harmfulness and 3.85 on the possibility of “food safety events”. According to table 3, food safety events rank the 6th place in the “harmfulness” role, after “nuclear leak”, “unknown epidemics”, “earthquake”, “environment pollution” and “terrorist attack”, and rank the 5th place in the “possibility” role, after “continuously growing house prices” ^⑨, “expanding gap between the wealthy and poor”, “traffic accident” and “environment pollution”.

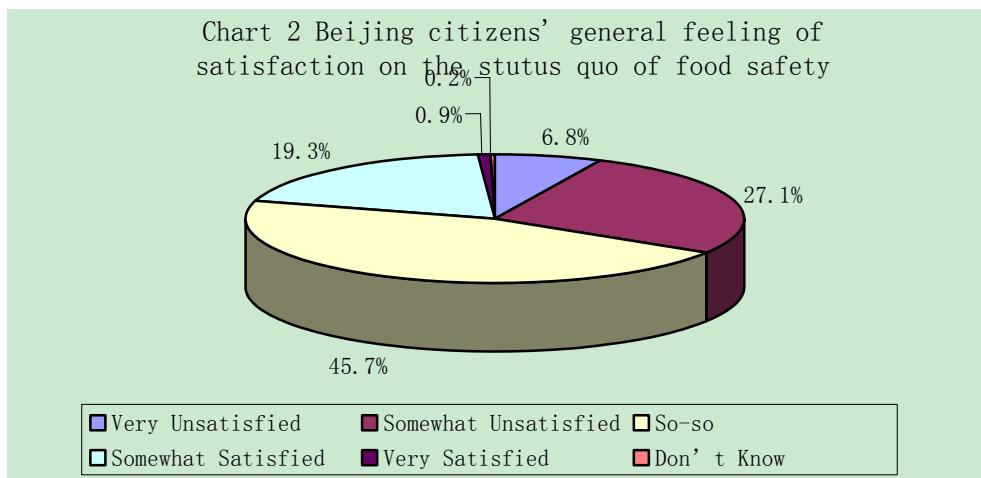
We should pay attention that in people’s minds, both food safety events and environment pollution are at the forefronts of the two lists. According to traditional opinions on risk analysis, the scale of the risk is the product of its harmfulness and its possibility. From this point of view, we can say food safety events and environment pollution are two of the most important risks in people’s mind, which means people have strong perception on risks directly related to their health and daily life.

5. Beijing citizens’ general feeling of satisfaction on the status quo of food safety

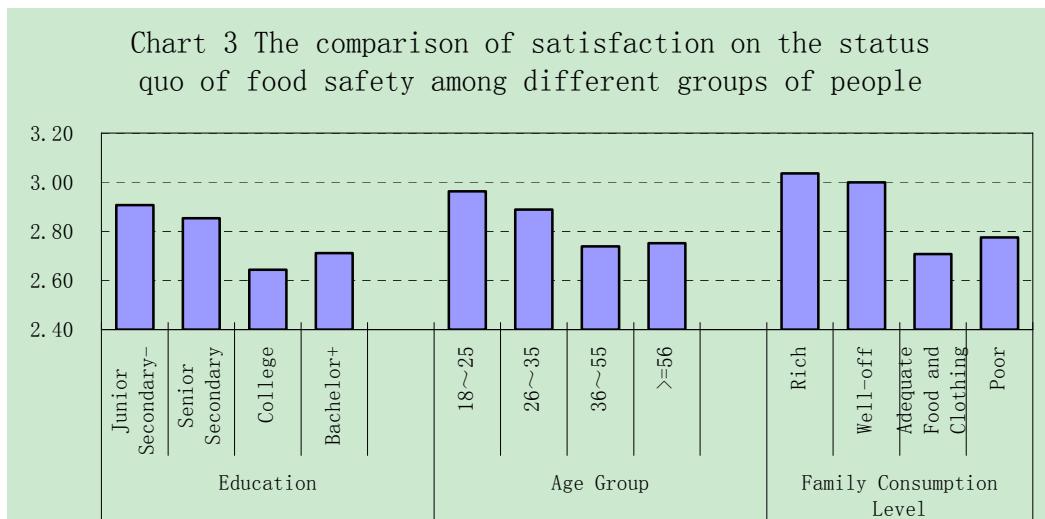
5.1 The citizens are not that satisfy with the current status of food safety, and about one third of them are unsatisfied.

In the survey, we have tested Beijing citizen’s satisfaction based on 5 degrees of marks: “1” means very unsatisfied and “5” means very satisfied. The average score is 2.80, which means Beijing citizens are not that satisfied with the status quo of food safety. Specifically, 0.9% of the citizens feel very satisfied, 19.3% of them feel somewhat satisfied, and 45.8% feel so-so. The percentage of citizens who feel very unsatisfied and somewhat unsatisfied account for 6.8% and 27.1% respectively, with a total amount of 34%. That is to say, nearly 1/3 of the citizens feel unsatisfied with the status quo of food safety.

^⑨ Based on statistics of the survey in 2007, the growing house price is considered one of the most serious issues, while things tend to be different in 2009.



To further analyze, citizens with different age, educational background and level of family consumption feel different about the satisfaction, and the results are shown in Chart 3.



Note: "1" means very unsatisfied and "5" means very satisfied, more satisfied with higher scores.

Differences of age

According to the survey, age difference has lot to do with the satisfaction. People below 25 hold the highest degree of satisfaction, with an average score of 2.96, then come the people between 26 and 35, between 36 and 55, with the average score of 2.89 and 2.74 respectively, and those who above 55 mark 2.75. The general trend tends to be more and more unsatisfied, with the increase of age. Additionally, in latter

analysis, we have also found out that elder people pay more attention on the information of food safety. It seems that, with the age increasing, people concern more about the food safety issues, thus will be more unsatisfied.

Differences of education

Generally speaking, with the upgrade of educational background, people tend to be more unsatisfied with the status quo of food safety. People who have finished junior middle schools, senior middle schools, junior colleges, colleges and universities give the average score of 2.91, 2.85, 2.64 and 2.71 respectively. One of the possible reasons is that with more knowledge, people will realize and expect more about the safety, and another one might be the more information brought by education will make people tend to be more satisfied.

Differences of consumption

Based on different layers set by the internationally applied Engel's Coefficient^⑩, we can find obvious diversity of satisfactions among different layers of family consumption. However, it is interesting to find out that families simply having adequate food and clothing feel most unsatisfied, with an average score of 2.71; wealthy families obviously feel more satisfied, with an average score of 3.04; while poor and well-off families hold the moderate score of 2.78 and 3.00. Therefore, it is not simply a linear relation between consumption and satisfaction. Families simply with adequate food and clothing, rather than the poorest ones are not the most unsatisfied. That might because, on one hand, they are lack of resources, and on the other hand, they are lack of awareness¹¹.

5.2 The majority of people think the major problem of the food safety management is lack of governmental management.

In recent years, the problems of food safety management have been the crucial and hard to be dealt with. Why it is hard to be dealt with? From this survey, we have

^⑩ According to standards set by FAO, the Engel's Coefficient equals or above 0.6 means "poor", between 0.5 and 0.59 means "simply having adequate food and clothing", between 0.4 and 0.49 means "well-off", between 0.3 and 0.39 means "wealthy", and below 0.3 means "the most wealthy". Since there are rare "the most wealthy" families in our research, we put them together with "wealthy" families in a same group.

¹¹ Families simply having adequate food and clothing are most conscious about the information of food safety, although this phenomenon can not be obviously shown from statistics.

found out that 10.9% of the citizens think it is mainly because of the current standards and rules set on food safety are not strict at all, 40.5% of them think it is because lack of management, and nearly a half, 48.6% of them think both the two reasons take accounts. Comprehensively speaking, the majority of people think the problem is quite related to lack of management and 2/5 think it the major cause. To further analyze, we can find that different groups of people have similar opinions about the problem of current food safety management.

The results show that the citizens generally hope the government pays more energy on food safety management and effectively combat against illegal actions. Herein, we suggest the government pay more attention and start from building a harmonious society, to actually improve the research and test of food safety, to communicate with scientists and the masses, considering developing a mechanism if possible, to help with the communication.

6. Conclusion and discussion

In this article, we have roughly studied Beijing citizens' knowledge and attitudes on the risks of food safety from the angle of perception. We can conclude that the food risk has become a serious topic, which has made people feel lack of safety and highly worried, especially the fake food makes people worry a lot; and the social and economical structure as well as individual background have little influence on people's perceptions. The citizens feel not much acceptable of the risks and feel unsatisfied with the management; while feel optimistic about the ability of the society to understand food risks from science and technology and that to control the risk. To further improve the management on food safety and to release people's worried on that issues have definitely become a crucial task that the government has to face.

The famous German sociologist Beck Ulrich once said, basic characteristics of a risk society lie in "the logic of risk allocation has replaced the logic of wealth allocation", the law of risk perception and actual display are different from that of the traditional society, and "poverty is hierachal while chemical things are democratic"¹².

¹² Ulrich Beck. 1992. Risk Society: Toward a New Modernity. London: Sage Publications.

Anyhow in our survey, it seems that at least in a modern metropolitan like Beijing, the logic of risk allocation has to some extend depart from the logic of wealth allocation, and risk has become a relatively independent criteria for social deviation. From this point of view, Beijing seems already become a “risk society”. Does this mean China is stepping into a “risk society” as well? In China, what on earth is the logic of risk allocation? For all these questions, we are not ready to answer. We need more and deeper case studies and comparison studies, to find statistics from survey and differences among developed countries as Germany and the United States. Therefore, our research shown in this paper is only a modest spur to induce others to come forward with valuable contributions, hope it can arouse the attentions from the academic circle, policy makers and the masses on the issue of Chinese risk society, for further study and discussion.