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Risk Perception and Evaluation of Supervision: A Study on Chinese Consumer Trust in Food Safety

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ABSTRACT

Food safety has always been the focus of attention from all walks of life as it has been treated as one of the important indicators of the development of a country, concerning national health, industrial security and social stability. On the basis of empirical data, this study analyzed consumer trust in food safety from the perspective of consumers' risk perception, consumer behavior and food safety regulation. It is found that consumers' trust in food safety in China is not optimistic and governance of food safety remains to be improved.

Keywords: Risk Perception and Evaluation of Supervision, Chinese Consumer Trust , Food Safety

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Research Background

As a hallmark of economic development of a country and People's living standards, food safety bears on national health, industrial security and social stability and has been concerned by all circles. The Trust in food safety is an integral part of social trust. To study consumers' risk perception, supervision and evaluation of food safety, as well as their consuming behaviors, Survey Data Center of Jinan University conducted a survey on Chinese consumer trust in food safety. From 28 Jan 2016 to 29 Feb 2016, we collected data from 17,842 valid questionnaires using "Wenjuanbao", an app provides professional survey service. As the statistics showed, 54% of the respondents are male while 45.1% are female. More than 90% of those surveyed has a high school degree or above. In terms of age, the young and middle-aged respondents (between 18 to 40 years old) make up to nearly 90%, namely, 73.9% aged from 18 to 30 and 15.7% aged from 31-40. The low- and middle-income earners, whose monthly income is lower than ¥5,000, account for 95.1 percent of respondents. Thereinto, those whose monthly income ranged from ¥3001 to ¥5000 makes up 53.8%. As we can find from the statistics, the urban-rural distribution of the respondents has almost equal shares. 40.6% of them are rural residents, while 59.4% are from the urban.

Consumers Risk Perception of Food Safety

Certain risks exist in food consumption. Risk perception is defined as people's subjective judgments on characteristics and seriousness of a certain risk (generally people make their judgments using intuition), as well as an important indicator to measure the psychological

panic of the public¹. Food safety involves security issues. Consumers tend to be impressionable due to their insufficient capability to pass judgment on food safety risk. Usually they assess risk based on their personal experiences and information provided by others. Accordingly, to a great extent, consumers' risk perception of food safety is an issue of trust. The frequent occurrence of food safety incidents has a far-reaching influent on consumers' risk perception of food safety. As the negative effects of food safety crisis have been magnified, consumers' perception of potential hazards enhances, while their trust in food safety reduces. This survey analyzed consumer trust in food safety from the following aspects, namely, risk perception of food safety of all sorts, potential food hazards and controversial food. As the survey suggests, the safety and quality of edible oil is the most concerned, followed by that of dairy products, fresh meat and cooked food. In the process of food consumption, using substandard materials, expired food and food deterioration have the worst effect in consumer trust. Among all food safety issues, those caused by harmful chemicals influent in consumer trust the most. Besides, consumers have low trust in genetically modified food and domestic milk brands. Regarding food additives, consumers have a relative rational cognition due to their trust in national standards.

Food Safety and Consumer Behavior

Food safety is comprehensive concept, which covers food nutrition, food hygiene, food quality and all related content, and all links from planting and breeding, food processing, packing, storage, transportation eventually to food sales². Information asymmetry is the fundamental

¹ Sun, Z.B., Lin, X.W. & Ye W.Y. A Survey on Consumers' Risk Perception of Food safety and Their Awareness of Risk Sources in Guangzhou City. Chinese Journal of Food Hygiene, 2014(1).

²Hu, L.Y. A Study on Consumer trust in Food Safety Supervised by the Government. Jilin University, 2014.

reason that causes food safety issues. According to different ways of getting information, how consumers implement their requirements of food safety can be classified into two ways, namely, through “self-protection” or “identifier”. “Self-protection” refers to consumer behavior of making preferential choices in food purchase on the basis of their personal experiences of food consumption. As to “identifier”, it refers to consumers’ selective purchase on certain kind of food with “security identifier” granted by third parties (usually the governments). Generally, this kind of “security identifier” includes Quality Safety, Food Safety Certification, traceable food labels, etc.³ Consumer trust in food safety does affect their actual consuming behavior, meanwhile, consumer behavior reflects trust issues on food safety. This study analyzed consumer behavior from the following aspects, “self-protection behavior” and “choice behavior of identifier”.

Self-protection mainly reflects in consumers’ attention to expiry date and relevant inspection certificates during food consumption. By contrast, information of price, brand, producer and product appearance are less concerned. From the fact that guarantee period and certificate of food quality inspection are treated as the most basis guarantee, it can be shown that safety weighed a lot more than brand and appearance for consumers.

As lifestyle changes, more and more people choose to dine out for the purpose of saving time and energy. However, in the recent years, consumers have been worried a lot about safety and quality of the food provided by restaurants due to frequent occurrences of food safety issues. More than 70% of the respondents said that they tried to cook at home or have meals in a canteen as much as possible.

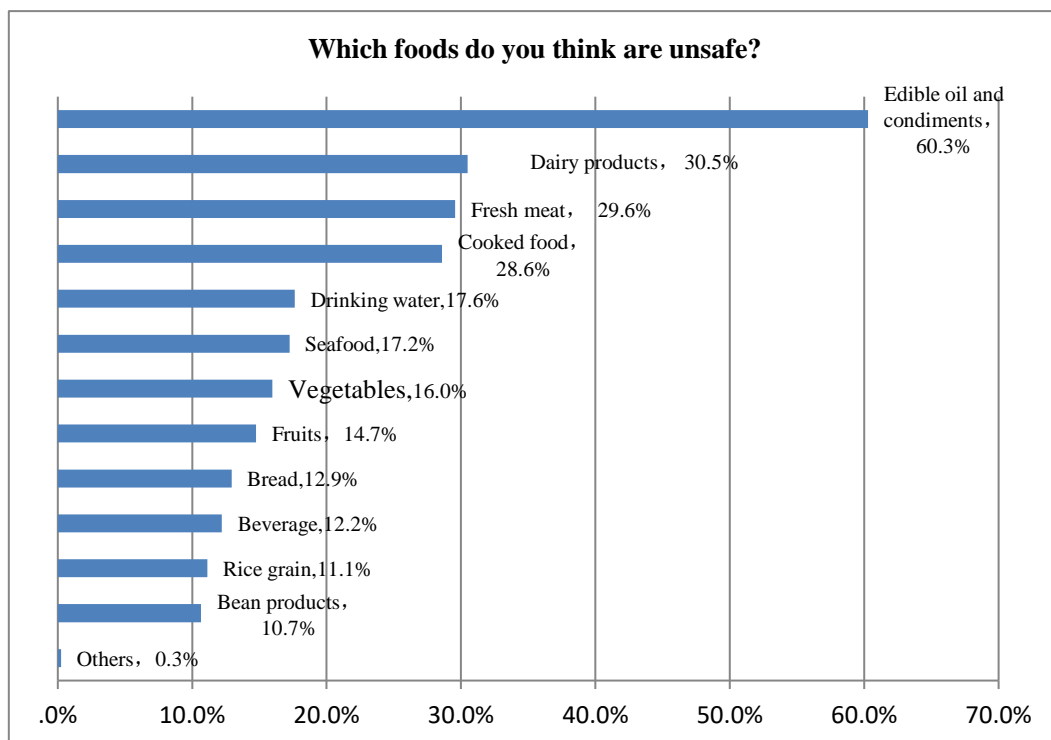


Figure1 Respondents' risk perception of different types of foods

³Quan, S.W. & Zeng, Y.C. Identifiers and Self-protection in Food Safety Consumption. China Population, Resources and Environment, 2014(4).

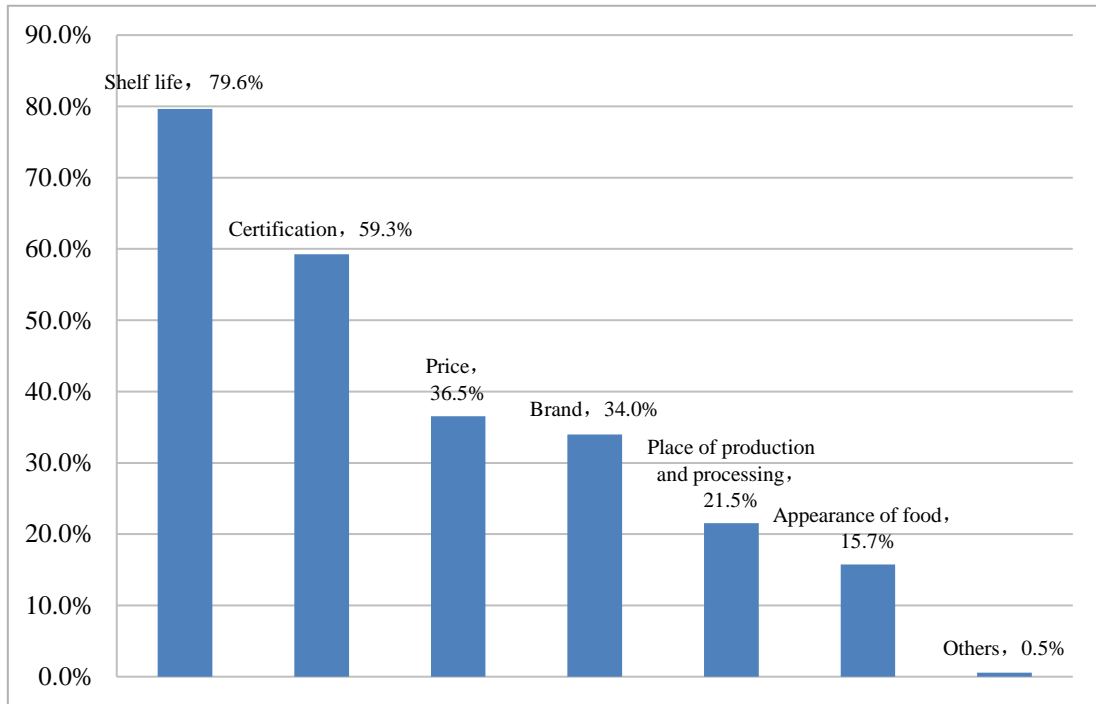


Figure 2 Respondents' Concerns when they buy foods

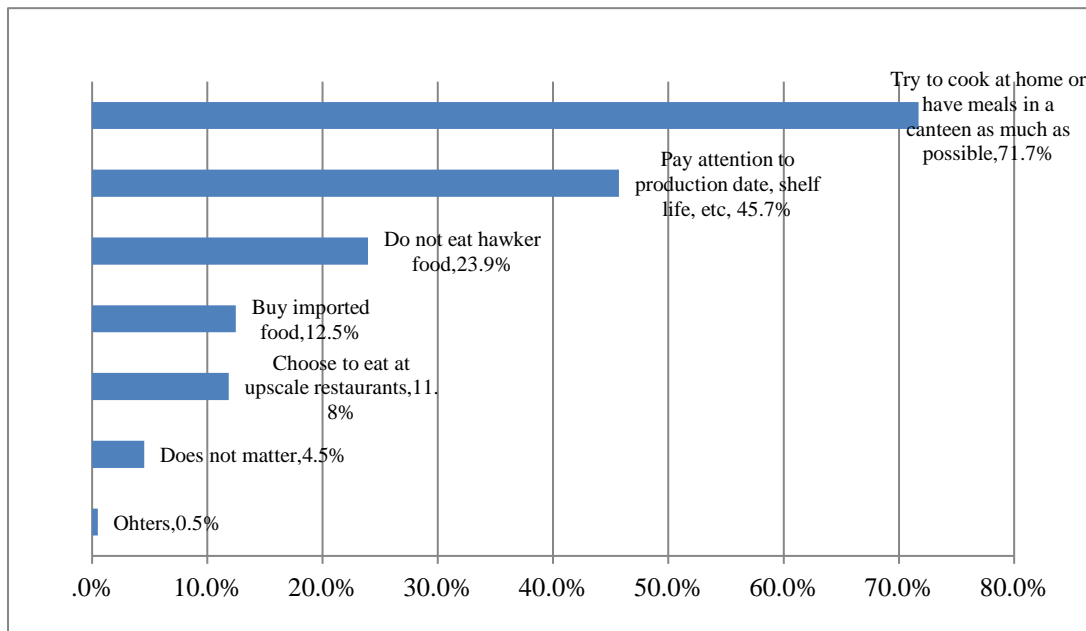


Figure 3 Respondents' methods to deal with food safety issues

Even though more and more consumers choose to eat at home or in canteens to avoid food safety issues, a great number of them find it difficult to get around to cooking with the pace of life continues to quicken. As a result, the number of those who dine out regularly is getting larger. In order to standardize food business and urge

the business operators to accept public supervision initiatives, market administration offices distribute bulletin boards to all food businesses within the jurisdiction for the disclosure of all food security related information. Information on the board includes catering service license, food distribution license,

business license, food safety management system, food safety commitment, quantitative grade appraisal, health certificate for employees, announcement on food additives, warning of possible food issues, phone number for complaint and report, etc. Generally, market supervision departments are in charge of board production and press all the canteens and restaurants to hang the board on the most conspicuous place. However, it is found in the survey that consumers don't pay much attention to the food safety bulletin boards even though they concern about safety and quality of food when dining out, which indicates that consumers don't trust food safety board much and they don't treat it as reliable identifier. What's more, consumers show a low trust in quality certification. According to existing empirical studies, it is widely believed that factors like perception, trust, income, family and individual characteristics mainly influences their decision making in food purchase. This survey found that age, monthly income and education level related to consumer trust in food safety certification. Among all the consumer characteristics, there is a remarkable negative correlation between age and trust in identifier, namely, the older the consumer is, the lower trust he or she has in food safety certification. Monthly income is negatively correlated with identifier trust, namely, the higher his or her monthly income is, the less a consumer trusts in food safety certification. By contrast, one's education level is positively related to his or her trust in identifier, namely, consumers with higher education tend to trust more in food safety certification.

Consumer's Evaluation of Food Safety Supervision

Food industry is typically asymmetrical. There is no possibility for an individual consumer to master all the information related to food quality

comprehensively. For this reason, food safety supervision becomes the most crucial of food safety guarantee. What deserved to be mentioned is that consumer's evaluation of food safety supervision has a great effect on food safety trust. To achieve effective food safety supervision, it requires government, media, consumer's association, third party certificate authority, food industry association and other public institutions to paly their respective roles.

As public administrators that are responsible for safeguarding people's interests, governments play an irreplaceable role in food safety supervision. Majority of the consumers believe that it is the government's obligation to conduct effective supervision on food safety. However, it is revealed in this survey that regarding food safety supervision, consumers trust more in third party certificate authority and consumer's association than official departments of food regulation. It reflects that there are problems to be solved for the government in food safety supervision from the side.

Consumers have strong demand of grasping information related to food safety and quality. Owing to information asymmetry, food producer and government have advantages in food market, while consumers are at a disadvantage. It is not only helpful with guidance for food consumption, but also beneficial to restore trust after serious food security issues, if the government provides adequate honest information of food safety. According to our survey, more than half of the believed that information on food safety released by the government was honest and reliable. This suggests that government is considered as an authoritative source of information on food safety. Usually, it is the media that reveals the food safety incidents the first time. Taking this into

consideration, it is understandable that consumer evaluation of food safety supervision is influenced by media to a great extent. As food safety incidents being reported and revealed in the media, consumer evaluation of social supervision improves, while consumer satisfaction of food safety reduces. Even though only less than 10% of the respondents believed that media exposure was the most effective way for food safety supervision, media still has a significant influence on consumer risk perception of food safety, and further consumer trust in food security.

For the purpose of achieving effective control on market failure, modern states widely implement powerful means to enhance intervention and supervision. Legislation and regulation are believed to be the most effective. "Food Safety Law of the People's Republic of China" came into force on 1st October, 2015 has been taken as the strictest food safety law in history. This law covers all the existing difficulties in food safety, including health food, online food trading, food additives, etc. All though it is generally recognized by consumers that the imperfection of related laws account the most for food safety issues, there is still a lack of trust in the new food

safety law.

To further discuss the relation between food safety supervision and consumer trust in food safety, this study tested the effects of variables of consumer trust in food administrations, perception of the reliability of information on food safety provide by government, influence from media, perception of effectiveness of the new law, etc. on consumer trust in food safety using regression analysis. It has been figured out that the regression model has a statistically significance ($R^2=0.368$, $P<0.001$).

From regression analysis, we can suggest that consumer trust in food administrations and consumer perception of the reliability of information on food safety provide by government have significant influence on food safety trust, which means they are positively correlated. Contrarily, there is a negative correlation between media influence and consumer trust in food safety. In brief, the more government supervision enhances and the more reliable the information on food safety is, the more consumer trust in food safety increases; the more consumers are effected by media, the less they trust in food safety.

Table 1 Regression analysis of consumer trust in food safety

Independent variables	Beta	P Value
(constant)		.000
Trust in food administrations	.367***	.000
Perception of the effectiveness of the new law	.254***	.000
Perception of the reliability of food safety information provided by government	.165***	.000
Media impact	-.056***	.000

Dependent Variable: consumer trust in food safety * $P<.05$; ** $P<.01$; *** $P<.001$

Table 2 Respondents' confidence in solving food safety problems

You believe that China will thoroughly solve food safety problems in the next decade.	Percentage (%)
Very congruent	2.0
Somewhat congruent	15.4
In-between	59.9
Somewhat incongruent	18.5
Very incongruent	4.3
Total	100.0

Consumer Trust and Expectation in Food Safety

Just like an old saying said, "Dining counts the most for people, of which safety comes first", food is a basis necessity for life and health maintenance, a material basis for human social activities. Food safety has become a matter of general concern of consumers in the case of a lack of trust in food safety. It has be found out in this survey that only 15.0% of the respondents showed same confidence in food safety, while 21.9% showed their distrust and the rest 63.0% remained neutral. The lack of confidence in food safety further affects consumer confidence in solving problems related to food safety. As we can find from this survey, most of the respondents showed weak confidence in "China will thoroughly solve food safety problems in the next decade", while only 17.4% agreed with it. The findings indicate that the situation of food safety trust in China is not optimistic and governance of food safety remained to be improved.

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