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# Chinese consumers food purchasing behaviors and awareness of food safety

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#### ABSTRACT

This study examines consumer food purchasing behavior and awareness of food safety in China. We surveyed a total of 1015 consumers in Nanjing and Beijing and the results showed that consumers with a lower level of education tend to be less concerned about certain food safety factors compared to those with a higher level of education. The respondents with higher food expenditures were also more concerned about food safety than those who spent less money on food. Women, families with children or elderly people were also more concerned. Consumers in the used sample preferred to buy food from a super-market; paid more attention to the expiration date on the food label, food color and the nutritional content of food products. Consumers had little knowledge of who was responsible for food safety in China; therefore educating consumers on who was responsible for food safety in China may help mitigate consumers' concerns.

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#### 1. Introduction

Food safety incidents in China have pushed consumers to become more aware of food safety and to become more skeptical when buying food products. These food safety incidents originate from a range of factors including but not exclusive the overuse of agricultural inputs on the land; and in response to pressure put on agricultural land from other uses such as infrastructure, industrialization, and property development (FORHEAD, 2014). The overuse or misuse of agricultural inputs leads to water pollution and algal blooms, heavy metal, deficiencies of some micronutrients (I, Fe, Zn), and other incidents such as pesticide residues in plants and animals, growth hormones, antibiotic and anti-parasitic in food (Jia & Jukes, 2013; Lam, Remais, Fung, Xu, & Sun, 2013; Wang, Zhang, & Ortega, 2013).

The problem with supervision and difficulty in traceability systems are also mentioned by researchers as the source of food safety incidents due to a large number of small and fragmented producers, processors and traders. The fragmentation of the industry also may lead to deceitful behaviors by cutting costs through cheating and use of unlawful additives in food processing to overcome high competition in market. The supervision problem is also

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http://dx.doi.org/10.1016/j.foodcont.2017.03.038 0956-7135/© 2017 Elsevier Ltd. All rights reserved. linked with several government entities working on food safety and that leads to lack of oneness and coordination, lack of law enforcement, asymmetric information, overlapping responsibilities, even to corruption (Jia & Jukes, 2013; Lam et al., 2013; Ortega, Wang, Wu, & Olynk, 2011; Wang et al., 2013).

The policy that exempt a business from further inspection after 3 successful inspections, inadequate labeling, lack of manufacturer registrations during processing and handling, low punishment in case of violation due to lack of laws, and outdated or missing standards are other problems that contribute to food safety scandals (Jia & Jukes, 2013; Wang et al., 2013). Therefore the aforementioned problems led to food safety incidents that resulted in changes in consumers behaviors.

The changes in the food market are not only from food safety incidents and growing health consciousness but also from rising incomes and urbanization (Jongwanich, 2009). The rising income is accompanied by an increase in frequency of eating out, and the consumption of high protein, high sugar and processed foods i.e., sea food, dairy products, eggs, meat, fruits, confectionary, sugar, soya products, and alcohol. The increase in income also provides consumers with more purchasing power, and leads them to choose higher quality and safe food products. However, a decrease in consumption of grains, tubers, vegetables and legumes was observed (Cao et al., 2013; FORHEAD, 2014; Garnett & Wilkes, 2014).

As Chinese consumers face diverse problems regarding food





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safety, this research aims to analyze Chinese consumer awareness and perception of food safety that lead to trust in entities in charge of control and management of food safety. Brewer, Sprouls, and Russon (1994) cited by (Ergönül, 2013) found that consumers chose safe food based mainly on the following factors: chemical issues (e.g. hormones and food additives), health issues (e.g. cholesterol content and nutrient imbalance), spoilage issues (e.g. microbiological level and contaminations), food regulatory issues (e.g. food inspection and labels), deceptive practices (e.g. weightloss diets) and ideal situations (e.g. length of time for pesticide safety assessment).

Previous research in China found the behaviors of Chinese consumers to be influenced by price. Consumers who are more price sensitive found safe food to be more expensive; therefore, Chinese consumers only are occasionally buyers of safe food. However, being price sensitive is not the only reason for this behavior, but also inconsistency in the interpretation of what is classed 'safe food' and the lack of detailed knowledge about production standards or quality controls for safe food (Liu, Pieniak, & Verbeke, 2013). If the consumers don't know who is in charge of managing, controlling and inspecting food safety in China, this will lead to less trust and confidence in food safety regulation and enforcement. However, confidence and trust are also somewhat dependent on consumer behavior beyond what can be controlled by enforcement official such as poor personnel hygiene, improper handling of food and contaminated food surfaces or equipment at home. Consumers have the choice in terms of where to buy, and how to cook and eat their food (FDA, 2010).

This research seeks to identify what factors contribute to Consumer awareness of food safety which subsequently impacts Consumer confidence in food safety and proposes how food suppliers and the Government in China can recover Consumer confidence in the domestic food supply chain.

#### 2. Survey design and data collection

The survey was completed between September and December 2012. The questionnaire was administered to 1015 respondents from Beijing and Nanjing. The feedback was collected from 577 respondents in 9 districts of Beijing and 438 in 5 districts Nanjing respectively through convenience sampling. The responds were approached in the Central Business District (CBD) along streets, in the parks and restaurants and they were interviewed face to face. The questionnaire used in this research consisted of four sections: the first section contained questions asking about the respondent's socio-economic and demographic information, the second section related to the respondent's purchasing behaviors and attitudes, the third section included questions about their awareness and knowledge of food safety, and lastly the fourth section had questions related to the satisfaction of food safety management. The data was analyzed using SPSS 16 version with the significance level of 0.05 and lower (P = 0.05).

Among the surveyed respondents, 53.6% were women as they take more responsibility for shopping and preparing food. Table 1 shows the majority (being 51.9%) of respondents were aged between 16 and 35, followed by the second group (43.5%) of respondents aged between 36 and 65, and minority (4.5%) being elderly members (above 65). The family size of 3 or 4 people (66.7% both) dominated the sample; a large number (30.3%) of respondents had a gross household income of RMB 50,000 to RMB 100,000, followed by a second group (28.2%) of respondents having a gross household income of RMB 30,000 to RMB 50,000. The majority of respondents had a medium level of education (47.8%), which reflects the considerable number of people who have more than 9 years of formal education in these cities. Families without

members that were not working or retired (60.2%) dominated the families of respondents; while 50.6% of the families of respondents had children who were under 20 years of age and who were still in school.

#### 3. Results

#### 3.1. Consumer purchasing behavior

The monthly per capita food expenditure per family indicated that 46.4% of respondents spent less than RMB 1000 per month on food which was the biggest group of respondents, followed by (35.4%) of respondents who spent RMB 1000 - RMB 2000 and the smallest share of respondents (18.2%) spent more than RMB 2000 per capita on food.

The super-market was reported by many respondents (41.1%) to be the place where they bought food last time, followed by the wet market (16%) and convenient stores (13.2%) among shopping areas. The consumers were also asked to name the factors that affect their concern when they purchase food, on a 4-scale Likert, where 4 means "very concerned" and 1 means "not concerned at all"; the shelf life of the product i.e. the expiry date was ranked first (M = 3.56), followed by food color (M = 3.24) and nutritional content (M = 3.23) as the top three factors considered when consumers make a purchase. Table 2 presents the results of factors considered by consumers when they buy food products.

#### 3.2. Consumers' concerns about food safety

Fig. 1 showed that the respondents had a high concern in food hygiene (52.0%), followed by food poisoning (45%), food additives (37.5%) and expiry date (36%) as the top four concerns.

When the respondents were asked if they were aware of the level of food hygiene in the places where they purchased their food 96% of them confirmed awareness of it. Regarding the question on how they knew about the hygiene standards of the places where they bought food from or eat out at, the main ways respondents assessed the hygiene of where they bought food was through word of mouth (55.3%) (i.e. the information from their friends, family and key informants), general appearance of premises (48.5%), the reputation (48.5%), appearance of staff (36.8) and hygiene sticker (36.7) stated in that order.

As for the question on food ingredients that are problematic to consumers, the main food issues of general concern for the respondents was the amount of total fat in food and the amount of saturated fat in food (both at 61%), amount of protein in food 38.3%, vitamin content (36.3%) and amount of sugar (30.6%) which showed that the major concern was proportion of nutrient being either insufficient or in excess of metabolic needs (nutritionally imbalanced food). In the food industry (as whole), the respondents were more concerned about the food price (65.6%) and food waste (23.9%) while fewer people are concerned about animal welfare (11.1%) and food mile (10.8%).

From the survey results, 83% of the respondents were more concerned about the safety of food sold locally at restaurants, fast food store, and take away (processed food), whilst 85% of them confirmed concerns about the safety of food sold locally at supermarkets, shops and food markets (fresh food).

#### 3.3. Satisfaction of food safety management

The satisfaction of food safety management showed that Consumer perception and beliefs were shaped by knowledge, which was the product of exposure to information sources and personal effort in obtaining information Wilcock, Pun, Khanona, and Aung Download English Version:

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