

□□□ **ACADEMIC STUDIES WITHOUT TEARS** □□□

ACADEMIC RESEARCH FINDINGS TURNED INTO INFORMATION THAT ADVOCATES CAN GRASP AND USE EFFORTLESSLY

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A taste of food-related surveys of Chinese consumers



This issue of ASWT features a selection of food-related surveys of consumers in China and Taiwan, from food safety to wet markets. Of the eight studies, six were published in 2020 and two in 2019. One study is written by researchers in Canada, and another paper by academics in Taiwan. The rest involves individuals based in academic research institutions in China.

These studies are by no means the best or the only such studies from the past two years. The main purpose of presenting them is to give advocates a sense of the intriguing variety out there. Take dairy purchase and consumption. There are quite a few surveys on this topic, including the three below.

The other purpose is to let advocacy groups know that academics in China are interested in consumer surveys and publishing their studies in English in peer-reviewed journals. So perhaps advocacy groups based outside China can collaborate with them.

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**1. Do Nanjing residents prefer to shop at supermarkets or traditional wet markets?**

***What did the researchers want to find out?***

What retail outlets do Nanjing residents use to obtain their food? What types of food do they typically get in these places? How accessible are these locations?

***Who/what were surveyed?***

A citywide survey in 2015 of 1,210 households in the city of Nanjing which is “the cradle of contemporary Chinese industrial development and one of the country’s top ranked cities in terms of the size of its economy”. (This survey is about purchasing behavior – not motivations.)

***What are some highlights in this study?***

PLACES WHERE FOOD IS PURCHASED:

Traditional/wet markets are Nanjing residents' favorite places for getting hold of fresh and cooked vegetables, fresh pork, chicken, fish.

"Supermarkets are the second-most-important food outlet in the purchase of many food items". It is the first choice for processed food, staples such as rice and noodle, as well as fresh milk.

Small shops, grocers, cafes are used mostly as sources for steamed bread/buns, and cooked chicken.

Street vendors supply residents with fresh fruits, steamed buns and fried dough because of "their affordability and convenience".

"Restaurants are also commonly used to get cooked food."

Residents shop at online stores mainly to purchase snacks.

#### TYPES OF FOOD PURCHASED:

Vegetables and fresh fruits are ranked as the most commonly purchased food items.

Fresh pork is the third highest. Rice is the fourth, "followed by eggs, noodles, fresh fish and cooking oil". The least purchased food on the list of 40 items tracked by researchers is canned meat.

Milk purchase in the past 30 days is reported by 59.5% of the respondents, and powdered milk/yogurt by 46.8%. These figures are surprisingly high as traditional Chinese diet does not include dairy products, and suggest "a Westernisation of diets" in this large urban city.

#### ACCESSIBILITY OF FOOD SOURCES:

The survey found that "most food purchases occurred within the respondents' neighbourhoods or within walking distance".

A bit more info:

- "Our article underscores the critical and dominant role of wet markets in effectively supplying vegetables and fruits as well as all kinds of meat to urban residents. It finds that after two decades of rapid development, supermarkets have become the top choice for purchasing staple grains, dairy products, eggs and processed food. Yet, instead of being displaced by supermarkets, wet markets maintain a strong niche amidst this competition. It plays a pivotal role in sustaining urban residents' secure access to fresh produce and meat. A key unsolved question, therefore, is why Nanjing people prefer to buy vegetables, fruits and meat from wet markets. This is probably due to their easy accessibility, freshness of food and negotiable low price."
- "The data show that, in spite of the state's initiative to phase out wet markets in some large Chinese cities by converting them to supermarkets (nong gai chao) since 2002, wet markets are still frequently used nowadays. The very high frequency of wet market visits exemplifies how a dense supply network of fresh produce works. Moreover, when 75.2 per cent of wet markets' patrons visit wet markets at least five days a week, these venues are not merely food outlets but bear other social and recreational functions and constitute a critical element that enriches community life in Chinese cities."
- "Our research also demonstrates that the complexity of the food system in China's cities is beyond the scope of a market economy. Non-market approaches to secure food access, such as through urban agriculture, have been a noteworthy component of the complex urban food system."

Si, Zhenzhong, Steffanie Scott, and Cameron McCordic. "Wet Markets, Supermarkets and Alternative Food Sources: Consumers' Food Access in Nanjing, China." *Canadian Journal of Development Studies / Revue canadienne d'études du développement* 40, no. 1 (January 2, 2019): 78-96. doi: 10.1080/02255189.2018.1442322



## 2. Does country-of-origin labeling influence Chinese consumers' purchase of imported milk and powder infant formula?

### **What did the researchers want to find out?**

IN PLAIN LANGUAGE:

Does country-of-origin matter to Chinese consumers when they buy imported dairy products?

Do Chinese consumers value dairy products imported from Country A differently than the same kinds of product imported from Country B? If so, how do these different perceptions and values affect the market price of all these products?

IN NERDY LANGUAGE:

What is the "implicit value Chinese consumers place on COOL [country-of-origin labeling] with regard to two specific imported dairy products"?

And how do the different attributions that Chinese consumers give to these two products based on their country-of-origin affect these products' "shadow" market price?

These two products are: (i) UHT fluid milk, and (ii) powder infant formula.

The import countries are: Germany, France, the Netherlands, Spain, Australia, and New Zealand.

CONTEXT AND BACKSTORY:

Chinese consumption of dairy climbed steadily in the 1990s and 2000s. Then came the huge melamine contamination scandal in 2008 involving local dairies. That put a dent in dairy consumption, but *not* in dairy *imports*. In fact, more fluid milk and milk powder were imported into China from 2008 to 2017 than in previous decades.

### **Who/what were surveyed?**

Five leading e-commerce platforms: Alibaba's Tmall Supermarket; Jingdong; Suning Purchase; COFCO I buy nets; Yihaodian. The data was collected between late February and early March 2017.

### **What are some highlights in this study?**

Consumers value fluid milk from Spain and Germany less than they value domestic Chinese milk.

All imported powder infant formula are valued more than domestic ones. Higher preference is given to countries in Europe than to Australia and New Zealand.

"The B2C platforms Yihaodian, Jingdong, Alibaba's Tmall Supermarket and Suning Purchase all earned a price premium above COFCO I buy nets."

Why do consumers prefer imported infant formula?

1. Melamine was found in domestic infant formula, and consumers still have not gained back confidence.
2. Infants are considered to be more vulnerable than adults. Chinese consumers think infants' food should have higher quality and stricter standards (which they believe imported products can provide).
3. Purchasing imported infant formula is "a matter of 'face/prestige'" to many Chinese parents who believe that they must not "let the child lose at the starting line".

A bit more info:

- "Urban China has witnessed a rapid growth of dairy consumption from the 1990s to 2008 as a result of income growth, expansion of modern food retailers or marketing channels, the trend of higher education levels, and changes in urban lifestyles. According to the China Dairy Yearbook (1996-2018), the average annual dairy consumption of urban residents was 7.33 kg in 1995, which increased to 24.87 kg in 2007. However, this growth trend for the Chinese domestic dairy market was negatively impacted by the melamine scandal in 2008. Thus, consumption of dairy products declined to 16.5 kg in 2017 – much lower than the consumption in 2007."

Zhang, Yan, and Shaosheng Jin. "Hedonic Valuation of Country of Origin in the Chinese Dairy Market." *International Food and Agribusiness Management Review* 23, no. 3 (September 30, 2020): 487–500. <https://www.wageningenacademic.com/doi/10.22434/IFAMR2019.0212>

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### 3. Is there one single thing that all consumers of fresh milk in Chinese cities care about?

#### **What did the researchers want to find out?**

What attributes do Chinese consumers consider to be important when purchasing fresh milk?

#### **Who/what were surveyed?**

1,248 randomly selected persons in ten cities (including surrounding areas) in China in 2016. The "survey sites were selected to obtain a good representation of China".

#### **What are some highlights in this study?**

When purchasing fresh milk Chinese consumers consider safety certification, freshness and shelf-life, and nutritional value to be its most important attributes. They pay least attention to where the milk originates, where the milk is purchased, and what packaging is used.

Looking at the big picture, price has not turned out to be as important an attribute as other studies have found.

There are clear differences between more developed locations (e.g. capitol cities) and less developed parts of cities and surrounding areas. In the former - which tend to have more elderly persons and females - safety of the milk is paramount. In less developed areas, half of the consumers are sensitive to price, and the other half to brand, while vulnerable persons such as pregnant women and those in poor health care most about quality and freshness.

Jin, Shaosheng, Rao Yuan, Yan Zhang, and Xin Jin. "Chinese Consumers' Preferences for Attributes of Fresh Milk: A Best–Worst Approach." *International Journal of Environmental Research and Public Health* 16, no. 21 (November 5, 2019): 4286. <https://www.mdpi.com/1660-4601/16/21/4286>

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### 4. Choosing which milk products to buy in China: Different strokes for different folks

#### **What did the researchers want to find out?**

How are Chinese consumers' choice of milk products influenced by brand, quality certification, traceability label, and price?

#### **Who/what were surveyed?**

691 individuals who responded to an online paid questionnaire in 2017. Not a sample of China's national population (see below for explanation).

#### **What are some highlights in this study?**

The survey indicates that broadly speaking "consumers are willing to pay most for traceability labels, followed by quality certifications, and least for brands".

But it is important to note that people are influenced by different things when they shop for milk products depending on their own values and preferences. Consumers can be grouped into four segments:

- 1) Health conscious consumers (the largest segment at over 50%), are "most concerned about food safety and health, focus less on price, and have little interest in environmental issues", and have "strong brand awareness".
- 2) "Balanced thinking" consumers (about 20%) take into consideration all factors, and have "the highest willingness to pay for traceability labels".
- 3) Environmentally conscious consumers (about 12%) like traceability labels, green, organic certifications, and "use price as a quality signal".
- 4) Price conscious consumers (a little under 10%) "care most about price and pay limited attention to food safety, health and environment".

A bit more info:

- "Chinese consumers lack confidence in domestic dairy products. . . . Thus, the Chinese government issued the 'National dairy industry development plan (2016– 2020)'. . . . This plan considers the dairy industry as a representation of food safety, national health and agricultural modernisation, putting forward several goals such as improving product quality and building strong brands. In recent years, the Chinese government has adopted stringent industry regulations and closed unqualified dairy companies."
- "The demographic statistics of our sample deviate from that of the national population, especially for the education level, occupational status and income level. The main reason for this inconsistency is that milk consumers are only a small part of the national population. The annual per capita consumption of milk in China is still low; although increasing disposable income, urbanisation, and health consciousness are leading to growth in milk consumption. Not everyone has access to fluid milk in China where the proportions of the rural population and low-income class remain high. As a consequence, milk consumers have higher education and income levels than the national population."

Wu, Xiang, Bin Hu, and Jie Xiong. "Understanding Heterogeneous Consumer Preferences in Chinese Milk Markets: A Latent Class Approach." *Journal of Agricultural Economics* 71, no. 1 (2020): 184–198.  
<https://onlinelibrary.wiley.com/doi/abs/10.1111/1477-9552.12327>



## 5. Zhejiang consumers do not fully trust certification to provide safety of animal-based food

### **What did the researchers want to find out?**

Does certification and traceability influence Chinese consumers' trust in the safety of fish, meat, milk, eggs, rice? (Certifications include: food quality safety market access/production system; hazard-free; green; organic.)

### **Who/what were surveyed?**

Face-to-face surveys of 757 randomly selected consumers in rural and urban areas in Zhejiang province in 2017 (with the sample "slightly oriented toward younger and more educated individuals").

### **What are some highlights in this study?**

On the whole, consumers are somewhat uncertain and skeptical that certification guarantees food safety of animal-based products.

Those with higher education are less influenced by certification.

Relatively speaking, consumers trust international certification labels more than local ones.

Price is often used as a cue for food safety.

A bit more info:

- "As declared in 2015 by China's State Council, food safety is a top priority. . . . Along with the law requirements, to enhance and ensure consumer trust in food quality and safety, the Chinese government adopted a comprehensive food certification system, principally organized by product certifications."

Moruzzo, Roberta, Francesco Riccioli, Fabio Boncinelli, Zhaozhong Zhang, Jinjin Zhao, Yaojia Tang, Lara Tinacci, Tommaso Massai, and Alessandra Guidi. "Urban Consumer Trust and Food Certifications in China." *Foods* 9, no. 9 (August 21, 2020): 1153. <https://www.mdpi.com/2304-8158/9/9/1153>



## 6. When Chinese consumers shop for organic food, do animal welfare and environmental concerns matter?

### **What did the researchers want to find out?**

What is Chinese consumers' perception of organic food? What are the factors that influence their willingness to purchase and pay for such food?

### **Who/what were surveyed?**

This is a bibliometric review. (These reviews try to understand an issue or answer a research question by examining the citations, keywords, and key topics mentioned in scholarly studies of that issue.) Ten studies were chosen for the final analysis.

### **What are some highlights in this study?**

Animal welfare and concerns for the environment are among the "major influencing factors" in Chinese consumers' willingness to pay for organic food. So are other factors: Health consciousness; food safety considerations; the knowledge, individual norm, and purchasing power of a consumer.

The strongest determinant seems to be a consumer's ability to pay for - and by extension the *price* of - organic food.

Li, Rui, Hsiu-Yu Lee, Yu-Ting Lin, Chih-Wei Liu, and Prony F. Tsai. "Consumers' Willingness to Pay for Organic Foods in China: Bibliometric Review for an Emerging Literature." *International Journal of Environmental Research and Public Health* 16, no. 10 (May 16, 2019): 1713. <https://www.mdpi.com/1660-4601/16/10/1713>



## 7. Do students in top universities in China and Taiwan care whether the food they buy carry certification labels?

### **What did the researchers want to find out?**

Are college students in Beijing and Taipei influenced by various factors when they consider purchasing certified food? Specifically, these factors are: 1. Optimistic bias. (Optimistic bias occurs when people unrealistically under-estimate the likelihood of risky events happening to them.) 2. Cognition of certified food. (This refers to the value consumers place on the food's safety, on its traceability, on whether it carries certification or organic labels, etc.) 3. Attention to news concerning food safety. 4. Credibility of the source that provides information related to food safety and certification. 5. Social trust in the government to manage food safety.

### **Who/what were surveyed?**

258 students in National Taiwan University and 268 students in Peking University in 2020.

### **What are some highlights in the study results?**

College students in Taiwan do not express optimistic bias. This is probably "due to their personal life experience". (There was a food safety incident with edible oil in 2014 that affected everyone in Taiwan.

So students there consider “their likelihood of encountering this [i.e. food safety] risk was the same as the risk faced by everyone”.) Chinese students, on the other hand, do exhibit optimistic bias.

Cognition of certified food has considerable influence over the kinds of food students in both Taiwan and China intend to buy.

Attention to news makes an appreciable difference to mainland Chinese students’ willingness to buy certified food, but not to students in Taiwan. The former group seems to be more eager for information. And mobile media in China – which disseminates food scandals prominently – receives loads of attention.

For both Taiwan and mainland China students, “the causal effects of information credibility and social trust on purchase intention were not significant”.

Wang, Guan-Yun, and Hsiu-Ping Yueh. “Optimistic Bias, Food Safety Cognition, and Consumer Behavior of College Students in Taiwan and Mainland China.” *Foods* 9, no. 11 (November 2, 2020): 1588. <https://www.mdpi.com/2304-8158/9/11/1588>.



## 8. When COVID-19 first hit China, did people’s attitudes to organic food and game meat alter?

### **What did the researchers want to find out?**

What were younger and older Chinese consumers’ perceptions and attitudes toward healthy/risky food (in particular organic food and game meat) in January 2020 when China was hit hard by COVID-19?

### **Who/what were surveyed?**

1,008 persons in January 2020, randomly recruited by WeChat (China’s most-used social media application).

### **What are some highlights in this study?**

“The COVID-19 crisis has a positive impact on the respondents’ attitude toward organic food and negative impact on their attitude toward game meat, which implies that food anxiety and health scares caused by food safety crises can change consumers’ sensitivity and belief about food health and risk.”

A statistically significant “generational effect” is found in the consumption of organic food.

Older people are more committed to and have more positive attitudes toward organic food than younger persons. They are more willing to eat organic food more frequently in the future. *But organic food can include game meat*, depending on the context and the interpretation of game meat. According to the survey, older persons attach more importance to game meat than younger persons. They continue to believe that game meat has important nutritional and medicinal values.

A bit more info:

- “Food choice and consumption are dynamic, situational, and complex, having resulted from the (non-) sensory characteristics of food and influenced by cultural and socio-affective factors as well as reliable information available about the food. . . . Game consumption is complicated, interrelated with growth, prosperity, and consumption habits in economic, cultural, and social aspects. . . . The symbolic role of wildlife is obvious in China’s developed cities. It has become a symbol of elite status and fashionable lifestyle for some people to buy and eat wildlife animals.”
- “As it comes of age, each generation experiences a fresh interaction with traditional values and principles and is likely to develop distinct preferences, which distinguish their attitudes toward food. . . . In addition, because of China’s dramatic and rapid transformations in economy, politics, and culture, the gaps between the new and older generations are arguably larger than in Western countries.”
- The definitions and standards of organic food, however, vary according to diverse situations and contexts. . . . For example, in addition to their nutritional qualities, African wildlife meats are considered organic for they are reared as free-range and meet the general criteria of organic production. Game consumption is a complicated issue interrelated with growth, prosperity, and consumption habits in economic, cultural,

and social aspects. In keeping with population growth, increasing buyer power, and globalization, game trade, including skins, medicinal ingredients, and food has become a burgeoning business around the world. It provides an income for some poor people and considerable revenue for the nation. In Hainan, China, for instance, with the improvement in the town-dwellers' standard of living, people have become more interested and able to add wildlife to their daily menu, which offers the local villagers a commercial way to increase their income."

Xie, Xiaoru, Liman Huang, Jun (Justin) Li, and Hong Zhu. "Generational Differences in Perceptions of Food Health/Risk and Attitudes toward Organic Food and Game Meat: The Case of the COVID-19 Crisis in China." *International Journal of Environmental Research and Public Health* 17, no. 9 (April 30, 2020): 3148. <https://www.mdpi.com/1660-4601/17/9/3148>

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#### **EXPLANATORY NOTE:**

- Academic studies are notoriously hard to find, read, and put into practical use by non-academics.
- Super-busy advocates cannot afford to spend a lot of time and effort to dig up, digest, and deploy academic research even though they recognize the value of academic studies in informing and improving their advocacy work.
- *Academic Studies Without Tears* aims to help advocates faced with this dilemma.
- Its target audience are leaders and funders of non-profit advocacy organizations addressing the many negative impacts of industrial animal agriculture in low- and middle-income countries.
- It uses a communication style – reminiscent of quiz or news items – that makes everything a breeze to read.
- Each issue focuses on a particular topic and includes 8 – 10 academic studies.
- It goes without saying that the academic studies featured are *not* the final word. They have flaws and limitations. They are just a tiny selection of perspectives and findings for advocates to consider, to whet their appetite. But every relevant data point and nugget of cogent information adds to one's store of knowledge and has the potential to spark new ideas.

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