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## **Health Information and the Consumer Diet Preferences in China**

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# **Health Information and Consumer Diet Preferences in China**

## **1.Introduction**

Unhealthy diet is a leading factor for death and disability globally (WHO, 2021). Chinese diets have shifted substantially from the traditional plant-based diets to animal- and plant-based diets due to economic and social development (Huang et al., 2021). On average Chinese residents eat too much meat while having insufficient consumption of whole grains, fruits, nuts, and milk (Sheng et al., 2021). There exist significant gaps between the current Chinese diet and the healthy diets, such as the Chinese Food Guide Pagoda diet and the EAT-Lancet diet. As a result, China has the highest rate of diet-related cardiovascular disease deaths and cancer deaths and disability-adjusted life-years worldwide (Afshin et al., 2019). This health burden would in turn reduce human capital and threaten life expectancy (Nishida, 2004; Willett and Stampfer, 2013). In response to these challenges, transforming the Chinese diet to healthy one is critical and urgent.

Nutrition information provision is one of the effective policy interventions that help individuals make informed decisions about their food choices (Guillaumie et al., 2010; Lusk et al., 2008; Roosen et al., 2009). A number of studies found that healthy diet education played an effective guiding role in children' s eating behavior (Van Cauwenberghe et al.,2010; Morgan et al.,2010). Many scholars in the fields of nutrition, consumer studies, and food policy studied the spillover effects of nutritional labelling or nutritional claims as healthy information on food choices (Gracia et al., 2009; Lusk et al., 2008; Balcombe et al., 2010). They found that health information had significantly positive effects on consumer preference for certain healthy foods. However, how health information affects individual choices of a diet remains underexplored. To fill this gap in

the literature, this study investigates the efficacy of health information in nudging people to choose a healthy diet.

Our study focuses on a diet plan, instead of a single food product or specific product category. The selection of a diet is consistent with real-world grocery shopping situation, where consumers purchase many food items as a package. In practice, consumers find it difficult to place a specific food within a dietary plan (Cowburn and Stockley, 2005). Even consumers making a healthy choice of one special food, previous research demonstrated that unhealthy eating could rebound. This is because people often overcompensate themselves with some sort of indulgence, yielding a net negative impact on their diets (Chandon and Wansink, 2007; Coelho Do Vale et al., 2008; Raghunathan et al., 2006). In addition, understanding how residents choose a diet would be more informative for diet-related healthy consequence (Casazza et al., 2013). Relative to consuming a diet, the consumption of a single food has limited impact on health and disease risks (de Ridder et al., 2017).

Previous studies suggested that information could promote consumers to buy certain healthy foods (Gracia et al., 2009; Lusk et al., 2008; Balcombe et al., 2010). However, as there are large amount of information and diversity of information source on the nutrition today, it is often difficult for consumers to assess the reliability of the information received. Thus, many consumers may not make the decision to buy healthy food (Evers and Carol, 2007). There is a lack of tailored research on the effect of different framed information on transforming consumers' behavior on healthy diet.

This paper aims to design different health information treatments and comparing their effectiveness at promoting healthy diets among Chinese consumers. The comparison of the efficacy of different types of information provision has important implications for information-based policy design and implementation of public health policies (Lin and Nayga, 2022). To this end, we designed and implemented an online discrete choice experiment to explore the impact of healthy information among Chinese residents. A between-subject design was employed in this experiment, which randomly assigns subjects into one of the nine intervention groups. Group 1 is the control group without any information. Group 2 and Group 3 provide individuals with the health information without any source, and the health information is positively framed in Group 2 and negatively in Group 3. Specifically, individuals in the positive information treatment are given a following information: “Increasing the intake of fruits and vegetables will reduce the risk of cardiovascular disease, cancer and tumors (such as gastric cancer, lung cancer, esophageal cancer, breast cancer and other disease)”, and negative information is given as follow: “Insufficient intake of fruits and vegetables will increase the risk of cardiovascular disease, cancer and tumors (such as gastric cancer, lung cancer, esophageal cancer, breast cancer and other disease)”. Group 4 and Group 5 provide individuals the health information from the Chinese Nutrition Society<sup>1</sup>. Group 6 and 7 provide the same information as Group 4 and 5, but sent via WeChat<sup>2</sup>, which is the most commonly used social software in China. The information source of Group 8 and 9 is different from Group 6 and 7. Such treatment (Group 8 and 9) give respondents information from one of the top ten WeChat public accounts in nutrition field. The choice experiment was conducted in six

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<sup>1</sup>The Chinese Nutrition Society is a voluntary formation of Chinese nutrition science and technology workers and scientific and technological, teaching and nutrition research institutions engaged in nutrition research and enterprises and institutions, which is headed by the China Association for Science and Technology.

<sup>2</sup> WeChat provides many features similar to WhatsApp. WeChat ranks three in the world's top ten international social software rankings, with over 1.2 billion monthly active users.

provincial capitals or municipalities in China, including Beijing, Shanghai, Chengdu, Wuhan, Guangzhou and Shenyang. A total of 3,150 urban consumers took part in the experiment.

Our findings demonstrate that negatively framed healthy information is more effective at increasing individual valuation of a healthy diet, relative to the positive information. This indicates health risks tends to receive more attention by Chinese residents, and the policy-makers in China would highlight health risks associated with diet consumption in the design of public health policy. However, when the health information is disclosure via social media, its effectiveness in promoting healthy diet choices is significantly reduced. Comparing the impacts of information sources, we find that consumers are more receptive to the information suggested by social celebrities than by scientists, even though the information is exactly same. Our findings imply that promoting the healthy diet guideline is useful way to achieve healthy goal among Chinese consumers.

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