

# Motivation-based segmentation of game meat consumers: A look at the beliefs of food consumers during the COVID-19 crisis in China

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## Abstract

**Objectives:** This research aims to explore the factors motivate consumers to eat game meat during a multi-state disease outbreak.

**Methods:** It proposes a segmentation of consumers based on their attitudes toward and reveals the consumers' food beliefs that motivate their actions. Three segments of game meat consumers were identified: identity seekers, health seekers, and taste seekers.

**Results:** A survey of the potential impact that the COVID-19 crisis has on these three clusters' future food choices showed that the identity and health seekers are more open to a change in food choices. However, the taste seekers are less likely to be influenced by external factors.

**Conclusions:** This research indicates that for the policymakers, the key is to take game meat consumers as an effective intervention entry point. It is crucial to facilitate healthy food choices and to promote socially- and culturally-appropriate food beliefs by improving public awareness of the risks of game meat, and invest in organic food.

**Research Implications:** This research provides new insights into the food beliefs of game meat consumers via motivation-based segmentation.

## KEYWORDS

beliefs of food consumers, food choice, game meat, motivation, organic food, segmentation

## 1 | INTRODUCTION

Food choice is a part of our daily life and results from interactions between the individual, intrinsic and extrinsic properties of food, and

the society (Shepherd & Raats, 1996; Steptoe & Wardle, 1999). Thanks to modernization and industrialization in both developing and developed regions, food consumption and choice has evolved into a complex issue, which results in the rapid change and diversification of

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human food beliefs (Heiman et al., 2019). For example, a prior study explored the consumers' perception of organic food, in terms of its unique attributes and social meanings (Shin et al., 2018). As Costa et al. (2014) noted, organic food can be seen as a symbol that signifies social identity and class. Organic wine, for instance, is found to have a positive relationship with social status and power and was associated with self-enhancement (Mueller et al., 2011). Game meat, as another example, is regarded as both a healthy and risky food type due to its natural, nutritional, and medicinal attributes, as well as its potential to carry micro-biological contaminants (Kadohira et al., 2019). Given the increase in population, buying power, and globalization, game meat consumption has become a burgeoning global business, which increases the risk of acquiring infectious diseases from wild animals (Daszak et al., 2000). Although it is a health hazard, some people, who are motivated by different factors, would still negotiate the possible food risks and choose to consume game foods.

In December 2019, COVID-19 was first reported by officials. According to a report issued by the International Labour Organization (2020), the COVID-19 crisis has become 'an economic and labor market shock', posing serious threats to both supply and demand across the world. It will push millions of people into unemployment, underemployment, and working poverty. For example, data from the National Bureau of Statistics of China (2020) showed that the value of industrial enterprises has declined by 13.5% in the first 2 months of 2020. According to reports, the COVID-19 illness most likely originated from game meat (Cyranski, 2020), which resulted in human-to-human transmission and caused a worldwide pandemic. Given the possibility of microbiological contamination in game meat, more and more countries have adopted strict measures to ban the trade and consumption of wild animals (Ribeiro et al., 2020).

The COVID-19 epidemic has led to nationwide anxiety about game meat consumption. However, when considering the worldwide implications of a disease caused by the consumption of wildlife, it is critical to use market segmentation to study game meat consumerism. Motivation-based segmentation can contribute to an understanding of the psychological and sociological reasons behind game meat consumption and provide managerial insights. First, as consumers are not homogenous people who have the same wants, segmentation can classify prospective consumers into specific groups with similar interests, needs, and habits. Second, motivation-attitude-based segmentation can be an important approach to provide managerial strategies for policymakers. Lacking an understanding of the game meat market can be the most challenging problem when developing policy responses. However, little attention has been paid to the segmentation of game meat consumers.

There is an urgent need to understand the personal and social factors that motivate game meat consumption and consumers' food beliefs because of increasing anxieties about infectious diseases with a wildlife-origin arising from this COVID-19 crisis. In addition, many game meat consumers may choose organic food for health concerns. This research provides empirical evidence to segment consumers based on their motivations to eat game meat and reveals the type of consumer organic food beliefs behind these motivations in the con-

text of the COVID-19 crisis in China. The following sections begin with a literature review of the motivations behind food choices and the game meat consumption market. This will be followed by a methodology section, which describes how the data were collected and analyzed. The last section offers empirical evidence segmenting game meat consumers and compares their perceptions on organic food during the COVID-19 crisis.

## 2 | LITERATURE REVIEW

### 2.1 | Motivation in food choice

Motivation describes the wants or needs that initiate, activate, and sustain goal-oriented behaviours. It explains the processes that give behaviour its energy and direction (Reeve, 2009). Behaviour is motivated by interactions between internal experiences of physiological and psychological needs and well-being, and external factors such as environmental, social, and cultural offerings (Reeve, 2009). The human needs to survive, maximize pleasure, minimize pain, and succeed are the foundations of preferences that motivate action (Higgins, 2012). According to the hedonic principle, behaviours are the motivation to approach pleasure and to move away from pain (Higgins, 2012). That is, the promise of a reward is commonly assumed as a good way to motivate behaviour (Higgins, 2012).

Motivations for the consumption of specific food and beverage choices reflect a person's internal needs, and this could be influenced by external socio-cultural factors (Rozin, 1996, 2002). Food choice is a part of daily life that arises from interactions between the characteristics of self (e.g. knowledge, beliefs, and attitudes), attributes of food, and social factors (e.g. socio-cultural traditions and the macroeconomic background) (Jaeger & Rose, 2008; Johansen et al., 2011; Kaya, 2016; Shepherd & Raats, 1996; Steptoe & Wardle, 1999). The motivation for food choice reflects an individual's biological and psychological needs, such as safety and security, love, self-esteem, belongingness, and self-actualization (Maslow, 1943; Mela, 1999; Rozin, 1996, 2002). Motivation is important when choosing food and involves factors such as health, sensory pleasure, weight control, price, convenience, ethical concerns, and familiarity (Clarke & Best, 2019; Johansen et al., 2011; Steptoe et al., 1995). For example, health, cost, convenience, and sensory pleasure are consistently considered as the top motivations in food choice, whereas familiarity and ethical concerns are often less common motivations (Clarke & Best, 2019; Januszewska et al., 2011; Markovina et al., 2015; Prescott et al., 2002; Scheibehenne et al., 2007). They can also be categorized as stable motivations involving preferences, cultural background, social norms, and attitudes, and momentary motivations that range in scope from availability, mood, and hunger to convenience or cost (Lindeman & Stark, 1999; Phan & Chambers, 2016; Rozin, 2007).

With the rapid modernization of society, consumers are going a step further by changing their requirements for food products. Food choices are related to consumers' personality and lifestyle and are explained

by underlying socio-demographic factors such as age, sex, social status, and income (Brunsø et al., 2004; Crossley & Khan, 2001; Johansen et al., 2011; Lindeman & Stark, 1999; Steptoe et al., 1995). Segmentation based on what motivates the consumers' choice in food is regarded as an important process to understand the consumers' preferences and choices (Clarke & Best, 2019). For example, as Husic-Mehmedovic et al. (2017) argued more and more consumers are searching for values and a lifestyle that portray their identity and belonging, which is being expressed through organic food consumption.

## 2.2 | The game meat consumption market

Segmentation divides consumers into groups according to their wants and needs and has become one of the common tools to investigate customer characteristics (Grunert, 2019; Zepeda & Nie, 2012). It is a marketing strategy used to cluster a heterogeneous group into homogeneous subgroups based on similar characteristics such as demographics, benefits sought, psychological attributes, needs and motives, behaviours, and occasions (Kotler et al., 2006; Park & Yoon, 2009). As there is an individualistic aspect to consumption motivations, there is an increase in the need for segmentation when studying food consumption-specific values (van Trijp & Meulenberg, 1996).

The market demand for game meat is a complex interwoven network, which can be influenced by various drivers at different levels and multiple spatial scales (Bachmann et al., 2019; Cowlshaw et al., 2005; Kamins et al., 2011; Van Vliet et al., 2019). For example, the motivations for game meat consumption are heterogeneous and are related to economic, social, cultural, historical, geographical, and ecological factors (Bachmann et al., 2019). Consumers are motivated to consume game meat for the perceived potency of wildlife animal parts in traditional medicine and fetish practices (Atuo et al., 2015; Fajardo et al., 2010). Prior studies have revealed that the main motivations for choosing to consume game meat were nutritional value (such as low fat and cholesterol content), medicinal properties, sensory characteristics (such as particular textures or tastes), the absence of anabolic steroids or other drugs, the attraction of eating new and exotic delicacies, and potential social symbolism (Atuo et al., 2015; Fajardo et al., 2010; Hoffman & Wiklund, 2006; La Neve et al., 2008). These medicinal, fetishistic, and nutritional reasons are always socio-culturally rooted (Kamp et al., 2015).

In some Asian countries, the use of game in traditional medicines is a practice based largely on long-standing beliefs with deep historical roots (Nekaris et al., 2010; Zhang et al., 2008). With the improvement of urban living standards, game has been regarded as a social symbol and lifestyle fashion icon (Zhang et al., 2008). Radder and Le Roux (2005) conducted a study on the consumption of venison, and their results indicated that eating game meat could be considered as a social marker since people perceived it as luxury meat for high-income groups and is related to high social and economic status.

## 3 | METHODS

### 3.1 | Questionnaire and measurements

A questionnaire containing four sections was designed to investigate attitudes about foodborne illness, game meat consumption, and organic food consumption. Section one contained items about foodborne illness and game meat consumption. Sections two and three asked about the perceptions towards game meat and organic food. Section four requested information about the socio-demographics of the respondents, including place of residence (rural/urban), gender, age, education, monthly income, and occupation.

Items about the motivating factors for game meat consumption and consumer perception of organic food and game meat were developed based on a comprehensive review of prior studies (Atuo et al., 2015; Demartini et al., 2018; Fajardo et al., 2010; Hoffman & Wiklund, 2006; Magnusson et al., 2003; Michaelidou & Hassan, 2008; Radder & Grunert, 2009; Tomasevic et al., 2018; Wassenaar et al., 2019; Wee et al., 2014). Six main motivation items were presented in the questionnaire: 'eating game meat is a symbol of identity', 'game meat has high medicinal value', 'game meat is tasty', 'eating game meat is a kind of culture', 'eating game meat out of curiosity', and 'eating game meat is a preference for organic food'. In addition, 24 items addressing the respondents' perception of organic food and game meat, and the impact of the COVID-19 crisis were included in the questionnaire on a 5-point Likert scale with 1 = strongly disagree/never to 5 = strongly agree/very frequent.

### 3.2 | Data collection

An online survey was performed in January 2020 to evaluate an individual's perception on game meat consumption, organic food consumption, and foodborne illness. The questionnaire (in Chinese) was first designed and uploaded onto a free Chinese professional survey platform called 'Wenjuanwang' (<https://www.wenjuan.com/>). It is convenient for researchers to establish, collect, and manage their questionnaires on this platform. After the questionnaire was generated, the researchers sent a web-based link to the questionnaire on 'Wenjuanwang' to the potential respondents via the social media platform 'WeChat', which is one of the most commonly-used social media platforms in China. Finally, incomplete questionnaires were deleted, and a total of 1143 usable responses were collected for data analysis.

### 3.3 | Analysis

The data obtained were first entered in the SPSS 24.0 software package. The data were then analyzed by cluster analysis, discriminant analysis, and one-way analysis of variance (ANOVA), etc. For example, the K-means clustering was implemented to segment game meat

**TABLE 1** The socio-demographic profiles of the respondents

Variable	Identity seekers (N = 211)		Health seekers (N = 439)		Taste seekers (N = 493)		Chi-square value	df	p value
	Number	%	Number	%	Number	%			
Gender							25.956	2	0.000 <sup>*</sup>
Male (N = 331)	32	15.20%	131	29.80%	168	34.10%			
Female (N = 812)	179	84.80%	308	70.20%	325	65.90%			
Age							46.223	4	0.000 <sup>*</sup>
30 and below (N = 774)	177	83.90%	302	68.80%	295	59.80%			
31–49 (N = 296)	30	14.20%	117	26.70%	149	30.20%			
50 and above (N = 73)	4	1.90%	20	4.60%	49	9.90%			
Education							15.889	4	0.003 <sup>*</sup>
Junior college degree or below (N = 339)	76	36.00%	173	39.40%	150	30.40%			
Bachelor (N = 500)	104	49.30%	176	40.10%	220	44.60%			
Master or PhD (N = 244)	31	14.70%	90	20.50%	123	24.90%			
Monthly income							25.743	8	0.001 <sup>*</sup>
Equal to or less than 5000 yuan (N = 726)	157	74.40%	282	64.20%	287	58.20%			
5001–10000 yuan (N = 245)	40	19.00%	96	21.90%	109	22.10%			
10001–25000 yuan (N = 129)	10	4.70%	49	11.20%	70	14.20%			
25001–50000 yuan (N = 30)	3	1.40%	8	1.80%	19	3.90%			
50001 yuan and above (N = 13)	1	0.50%	4	0.90%	8	1.60%			

\*Significance: \* $p < 0.05$ .

consumers into heterogeneous groups based on their motives. Scheffé's multiple-range test was utilized to explore the significant differences between groups based on each motive. Discriminant analysis was then used to predict the probability of belonging to a group based on a linear combination of interval predictor variables. One-way ANOVA was finally carried out to determine if there were significant differences in each group's perception of organic food and game meat.

## 4 | RESULTS

### 4.1 | Sample profile

Table 1 presents the socio-demographic profiles of the respondents. The results show that a majority of respondents were female (71%). Most of the respondents are of the younger generation, aged 30 and below (67.7%). A total of 65.1% had or are enrolled in higher education degrees (such as bachelor or degree), and 63.5% belonged to the low-income group with a monthly income below 5000 yuan (US\$740). There are significant differences in the three identified motivation-based groups in terms of their education level, sex, age, education, and monthly income.

### 4.2 | Segmenting game meat consumers

As one of data reduction techniques, the cluster analysis was performed to categorize the similar meat consumers into mutually exclusive groups. Three clusters of respondents were identified. The Scheffé's multiple-range test was carried out to decide whether the differences between means of these unrelated groups (segments) were statistically significant. A Scheffé's post hoc test showed that there were statistically significant differences among the segments (Table 2). The first cluster contained consumers with the highest average score for the item: 'eating game meat is a symbol of identity'. Since the respondents in this cluster consumed game meat in pursuit of identity, this group was labelled as the 'identity seekers'. We labelled a second cluster as 'health seekers' because this group had the highest mean score on the item: 'game meat is of high medicinal value'. Respondents in this cluster had a strong desire to eat game meat because of its health and medicinal attributes. The third group scored high on the item 'game meat is tasty', and was labelled as 'taste seekers'.

Discriminant analysis was further used to determine the number of non-overlapping groups (Table 3). Two discriminant dimensions with the canonical correlation coefficient (0.921 and 0.826) were identified; both were statistically significant. The canonical discriminant functions

**TABLE 2** Summary of cluster analysis of game meat consumer motivations

Item	Cluster I	Cluster II	Cluster III	F value	Scheffé's multiple-range tests		
					I-II	I-III	II-II
Game meat is tasty.	1.14	2.26	3.29	821.261***	0.000	0.000	0.000
Eating game meat is a symbol of identity.	3.50	1.57	2.48	241.940***	0.000	0.000	0.000
Game meat is of high medicinal value.	1.09	3.73	2.80	989.926***	0.000	0.000	0.000
Cluster name	Identity seekers	Health seekers	Taste seekers				

Significance: \*\*\* $p < 0.001$ .

**TABLE 3** Results of discriminant analysis of game meat consumer motivation clusters

	Discriminant function	Eigenvalue	Canonical correlation	Wilks' Lamda	$\chi$ significance
Motivation factors	1	3.601	0.921	0.104	0
	2	1.094	0.826	0.477	0
<b>Standardized canonical discriminant Function coefficients</b>		<b>Function 1</b>		<b>Function 2</b>	
Game meat is of high medicinal value		0.934		-0.317	
Game meat is tasty		0.486		0.902	
Eating game meat is a symbol of identity		-0.526		0.529	

are reflected through eigenvalues. The first eigenvalue (3.601) reflects the most variation. Wilks's lambda ( $\lambda$ ) was used to interpret which variables' contributions are significant to the discriminant functions. The chi-square statistic provides a method to test the significance of Wilks's  $\lambda$ , that is, how well each function segments individuals into clusters ( $p < 0.05$ ). The standardized discriminant function coefficient was performed to compare the relative importance of each independent variable's unique contribution to the discriminant function. For example, the higher the coefficient value, the more important the variable is to that segment. Approximately 97.9% of people identified through the classification matrix were used to determine the effectiveness of the function.

A chi-square test was carried out to determine if demographic/socio-economic status among the three groups was different and whether this difference was statistically significant. The results suggest that there were statistically significant differences among these groups in the following areas: 'gender' ( $\chi = 25.956$ ,  $df = 2$ ,  $p = 0.000$ ), 'age' ( $\chi = 46.223$ ,  $df = 4$ ,  $p = 0.000$ ), 'education' ( $\chi = 15.889$ ,  $df = 4$ ,  $p = 0.003$ ), and 'monthly income' ( $\chi = 25.743$ ,  $df = 8$ ,  $p = 0.001$ ) (see Table 1).

### 4.3 | Comparing the perceptions of organic food and game meat

The one-way ANOVA comparing perceptions of organic food and game meat, and the impact of COVID-19 crisis in the three consumer clusters are shown in Table 4. Only items that were statistically significant are demonstrated. In terms of organic food, the identity seekers

scored higher on 'I think that purchasing organic food is wise', 'I think that purchasing organic food is beneficial', and 'organic food promotes environmental sustainability'. Thus, this group has a more positive attitude towards organic food than the other two groups. The taste seekers' attitude towards organic food is the least positive among the three clusters. The health and taste seekers scored above the midpoint (3) for the item 'it is necessary to change traditional food into organic food', whereas the identity seekers scored slightly below 3 for this item.

Although all respondents have relatively negative attitudes towards game meat, there are significant differences in the three clusters. The identity seekers scored the highest on item 7, which indicates that they knew more about which wild animals are banned from being eaten or sold, whereas the taste seekers were the least knowledgeable about the legality of game meat consumption. The health and taste seekers prioritized consuming game meat in their daily diet than identity seekers, with the taste seekers scoring it as more important. Among the three groups, the taste seekers liked eating game meat the most, whereas the identity seekers showed the least-liked food type. Regarding the current and intended future eating frequencies, the identity seekers had the lowest scores, whereas the taste seekers scored the highest on both items.

In terms of whether the COVID-19 crisis impacted their intention to change their diets in the future, the identity seekers scored the highest on their 'intent to decrease the frequency of eating game meat in the future', and the health seekers had the highest score on their 'intent to increase in the frequency of eating organic food in the future'. The results also showed that the crisis had less influence on the taste seekers than on the identity and health seekers. The health seekers

**TABLE 4** The three clusters' opinions of organic food and game meat, and the impact of the COVID-19 crisis

Item	Identity seekers (N = 211)		Health seekers (N = 439)		Taste seekers (N = 493)		T	Significance
	Mean	SD	Mean	SD	Mean	SD		
1. I think that purchasing organic food is wise.	3.85 <sup>a</sup>	0.922	3.76	0.735	3.69 <sup>b</sup>	0.768	3.348	0.035 <sup>*</sup>
2. I think that purchasing organic food is beneficial.	3.88 <sup>a</sup>	0.891	3.75	0.719	3.67 <sup>b</sup>	0.759	5.430	0.004 <sup>*</sup>
3. It is necessary to change traditional food into organic food.	2.98 <sup>b</sup>	0.981	3.13	0.845	3.18 <sup>a</sup>	0.867	3.684	0.025 <sup>*</sup>
4. Organic food is beneficial for environmental sustainability.	3.97 <sup>a</sup>	0.828	3.94	0.749	3.81 <sup>b</sup>	0.796	4.751	0.009 <sup>*</sup>
5. Organic food is more nutritious and healthier than game meat.	4.24 <sup>a</sup>	1.039	3.83	0.889	3.78 <sup>b</sup>	0.934	19.321	0.000 <sup>*</sup>
6. The COVID-19 crisis has influenced my future intent to eat game meat.	4.54 <sup>a</sup>	1.109	4.33	1.046	4.09 <sup>b</sup>	1.110	14.388	0.000 <sup>*</sup>
7. I know which wild animals are banned from being eaten or sold.	3.35 <sup>a</sup>	1.264	3.18	1.049	3.01 <sup>b</sup>	1.043	7.746	0.000 <sup>*</sup>
8. I think game meat is important for my diet.	1.14 <sup>b</sup>	0.483	1.76	0.795	1.82 <sup>a</sup>	0.759	69.878	0.000 <sup>*</sup>
9. I like eating game meat.	1.18 <sup>b</sup>	0.522	1.77	0.815	1.97 <sup>a</sup>	0.900	70.535	0.000 <sup>*</sup>
10. The frequency of game meat eating.	1.10 <sup>b</sup>	0.350	1.34	0.551	1.41 <sup>a</sup>	0.624	23.263	0.000 <sup>*</sup>
11. I will increase the eating frequency of game meat in the future.	1.03 <sup>b</sup>	0.167	1.25	0.608	1.37 <sup>a</sup>	0.710	23.040	0.000 <sup>*</sup>
12. The COVID-19 crisis has affected my intent to increase eating organic food.	3.50	1.016	3.52 <sup>a</sup>	0.914	3.36 <sup>b</sup>	0.917	3.788	0.023 <sup>*</sup>

\**p*-value = 0.05; 1 = strongly disagree/never; 5 = strongly agree/very frequent.

Superscript "a" indicates the lowest score; superscript "b" indicates the highest score.

were more likely to increase their organic consumption frequency due to the COVID-19 outbreak. In addition, the identity seekers were more likely to reduce their consumption frequency of game meat.

## 5 | DISCUSSION

This has sought to develop segmentation frameworks based on consumers' attitudes towards wild game meat and their motivated action. The study has uncovered three major consumer profiles with distinct attitudes and behaviour towards food beliefs. In addition, it has been shown that the COVID-19 pandemic significantly affected people's dietary patterns.

### 5.1 | The food beliefs of the identity seekers

In terms of organic food, the identity seekers have a stronger agreement with the items that reflect positively on buying organic food (such as 'that buying food is wise and beneficial for the society'). They have a greater awareness of the social values of organic foods, which leads to a more positive attitude towards this food type. Regarding game meat, identity seekers are more knowledgeable about the laws governing game meat consumption. Wild animals that are banned from being eaten or sold are more likely to be treasured and be more expensive. Eating these 'luxurious' wild animals could be considered as a sign of social position (Radder & Le Roux, 2005).

When choosing food, this group of consumers is more likely to be motivated by their psychological need, to associate social meanings to food, and to be more motivated by ideological elements (such as using food to symbolize their performance and to express their social identity). Game meat is a symbol of choice. Therefore, it is more of an alternative rather than a necessity. Hansen et al. (2018) argued that self-enhancement emphasizes the pursuit of self-interest and encompasses power and achievement values, and consumers adhering more to self-enhancement values may be more likely to exhibit a positive relationship between egoistic motives. The identity seekers might also choose organic food as an alternative food choice to enact their identity and express and enhance themselves by consuming food. In their belief of food, they might attach more social meanings to the food they choose.

### 5.2 | The food beliefs of the health seekers

Prior research has revealed that healthiness is a critical motivation for food choice (Ares & Gámbaro, 2007; Johansen et al., 2011; Prescott et al., 2002). Motivated by health concerns, which is a motivation based on the basic physiological need to survive, the health seekers choose game meat because of its medicinal value. They consume game meat based on the culturally-rooted perception that it has high medicinal value. Some wild animals, such as pangolins, have been found to contain medicinal properties (Alves & Rosa, 2013;

Alves et al., 2010; Li et al., 2020; Soewu et al., 2012; Williams et al., 2014).

The health seekers have the lowest perception about game meat and the social value of organic food among the three clusters. They are more health-conscious. Therefore, health benefits play a central role in their choice of food. This implies that they are less sensitive towards its unique and novel attributes when choosing foods and are therefore less likely to pursue a specific kind of food. Their food choice is based on their satisfaction of basic biological needs. They think less of the food and more of their health, and their food beliefs are more likely to be influenced by external factors such as culture.

### 5.3 | The food beliefs of the taste seekers

Previous studies have shown evidence that sensory appeal is an important motivation for food choices (Honkanen & Frewer, 2009; Johansen et al., 2011; Johansen et al., 2010). Taste could influence the consumers' preference for particular foods (Fajardo et al., 2010). As Rozin (1996) has stated, 'food is also a source of basic pleasure'. This cluster has the lowest perception about the health and social value of organic foods but has the highest opinion about game meat among these three groups. They also have a higher game meat eating frequency than the other clusters.

The taste seekers choose game meat based on its taste, which comes from the sensory quality of meat. Upon heating, game meat undergoes various reactions to produce several desirable taste characteristics and therefore is perceived to have a distinctive taste (Neethling et al., 2016; Razmaite et al., 2019). In comparison to health seekers, the taste seekers' physiological need seems to be less health-oriented and is based on the sensory perception of 'pleasantness of taste' derived from game meat consumption. Although they have a negative perception of game meat due to its potential health risks, they are still motivated by their needs and therefore choose to consume it – what game meat provides is a gustatory sensation that can satisfy their hedonic need. Thus, in food consumption, when motivated by a pursuit of sensory pleasure, the taste seekers are more willing to choose food based on its physical attribute, which functions to influence their emotional and behavioural responses to food and evokes biologically innate hedonic responses. Food can generate intense hedonic reactions (Meiselman & MacFie, 1996). According to the hedonic principle of enjoying the pleasantness of taste derived from the sensory quality of food, when searching for food, the taste seekers tend to focus on their sensory pleasure, and they would prefer 'physiologically better food' (Bernard et al., 2005). Their food belief is based on the hedonic principle, which satisfies their physiological needs.

### 5.4 | The impact of the COVID-19 crisis

The COVID-19 crisis had a greater influence on identity and health seekers than taste seekers regarding their intentions to change future diets. The identity seekers are more likely to reduce their game meat

consumption, and health seekers may be more committed to eating organic food in the future. COVID-19's influence on the taste seekers is the smallest among the three clusters. This indicates that when choosing foods, the taste seekers are more likely to ignore the health risk. They pursue the hedonic aspect of food to satisfy their physiological needs – the sensory pleasantness of food (Meiselman & MacFie, 1996).

### 5.5 | Policy implications

This study showed that there are statistically significant differences between the motivation-based segments of game meat consumers with respect to their socio-demographic characteristics and their perceptions of organic food, game meat, and the COVID-19 crisis. Three groups of game meat consumers were identified. They are identity seekers, health seekers, and taste seekers. The main motives for choosing game meat are dependent on its symbolic implication, medicinal value, and taste. Each segment exhibits distinct beliefs in organic food and game meat.

In choosing to eat game meat, the identity seekers' motivation arises from a psychological need to express themselves in their social circles. They view food as a symbol of social status and attach more importance to social meaning when choosing this type of food. Motivated by a physiological need in health, the health seekers choose game meat due to its medicinal value. Their concern for health is reflected in their food choice. Although this physiological need also leads to game meat consumption by the taste seekers, their need is based on the particular tasty characteristic of game meat. Attempting to pursue the hedonic principle, they pay more attention to their sensory pleasure, which is specifically generated by the attributes of food. In terms of the impact that the COVID-19 crisis has on the future consumption of organic food and game meat by these three groups, the taste seekers show less willingness to change in comparison to the other two groups due to a food-specific motivation. For the identity and health seekers, game meat is an alternative. They are more likely to turn to other foods to satisfy their motivation. In summary, the identity and health seekers might be more open to alternative food choices, while the taste seekers are less influenced by external factors.

The findings of this study provide new insights into the food beliefs of game meat consumers via motivation-based segmentation. For the policymakers, the key is to take game meat consumers as an effective intervention entry point. It is crucial to facilitate healthy food choices and to promote socially and culturally appropriate food beliefs by improving public awareness of the risks of game meat, and invest in organic food.

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## AUTHOR CONTRIBUTIONS

Dr. Zhu and Dr. Li were in charge of the data collection, data analysis, and interpretation. Dr. Xie and Dr. Cai provided critical revisions of the article. These four authors gave final approval of the version to be submitted.

## CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

## PEER REVIEW

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