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Research Article

Empirical Study on Food Consumption Structure Based on Household Survey in Rural Xinjiang, China

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Abstract

In order to timely grasp the changes in the food consumption structure of rural residents in Xinjiang and provide reference for the government to adjust agricultural production structure and optimize the allocation of agricultural resources. The first-hand data of food consumption of 70 rural residents in Kashgar were collected through field questionnaire, using the AIDS expansion model to calculate the price elasticity and expenditure elasticity of seven categories of food consumption in households, and conduct an empirical study on the influencing factors of food consumption. The results show that the self price elasticity is all negative, which meets the law of demand; the cross price is inelastic, and the absolute value of elasticity is smaller than the self price elasticity; education level, family structure, income source and family size all have an impact on the food consumption structure of rural households in Xinjiang. Although the food consumption structure is gradually optimized, rural residents are still sensitive to the change of grain price; with the increase of food expenditure, rural residents will increase the consumption demand for enjoyable food such as tobacco, alcohol, tea and sugar; relevant departments should stabilize prices and ensure the basic supply of food; improve the income level of residents and ensure the increase of residents' income.

Keywords: Almost Ideal Demand System; Food Consumption; Rural Residents; Xinjiang

Introduction

The Xinjiang autonomous region is located in the northwest frontier of China and bordered by eight countries. Its unique strategic position makes Xinjiang the intersection of East and West economy and culture, and an important gateway for China to Central Asian countries [1]. With the strong support of the Communist Party of China and the State, Xinjiang's economy has developed rapidly and the people's living standards have been comprehensively improved. With the improvement of living standards of rural residents in Xinjiang and the change of consumption concepts, the food consumption structure has changed accordingly. Residents' consumption demand for food is no longer just satisfied with "full". At the same time, Xinjiang is a multi-ethnic gathering area and a relatively backward area in China's economic development level. It has the characteristics of typical regional dual economic structure and urban-rural dual economic structure. Under the influence of many factors, rural residents have their own dietary characteristics. Exploring the changes of food consumption structure of rural residents and studying the impact of changes in main influencing factors on food consumption of residents will provide reference for grasping the structure and mode of food consumption of rural residents, and for the government to optimize the food consumption structure of Xinjiang residents.

At present, for the research methods of food consumption structure, domestic scholars mostly use Engel coefficient method [2], the change of per capita consumption of various foods and the proportion of food consumption expenditure [3], and through Double-Log model[4], Extend Linear Expenditure System (ELES) model, Almost Ideal Demand System (AIDS) model and its extended model conduct empirical research on the elasticity of food consumption and the changing trend of consumption structure.

Many scholars have conducted research on the structure of food consumption. For example, Wang Jun., *et al*. (2017) used ELES model to conduct an empirical analysis on the consumption of livestock products of residents in Xinjiang. The study found that the marginal consumption propensity of mutton, pork and beef is high. With the increase of income, the proportion of pork and poultry gradually increases [5]. Yang Xue., *et al*. (2018) analyzed the food consumption structure and influencing factors of urban and rural residents in Central China by establishing AIDS model. The results show that the food expenditure share of rural residents in Central China is the highest, and the food consumption expenditure of households with heavy burden of rural labor force is higher [6]. Yin Yexing., *et al.* (2020) used the AIDS model to analyze the food consumption of urban and rural residents in China. They believe that the consumption share of grain and oil tends to decrease, and the consumption of fresh milk and aquatic products still has great growth potential. For rural residents, the consumption of animal food, especially aquatic products and beef and mutton, still has great price elasticity and expenditure elasticity. Consumption expenditure and price changes will still significantly affect the food consumption structure of rural residents in a certain period of time [7]. Yan Haowei., *et al*. (2021) analyzed the food consumption demand of Chinese urban residents by using ELES model and concluded that the consumption of aquatic products will become the main growth point of food consumption of Chinese urban residents in the future. The consumption of aquatic products will have the attribute of high-grade food for a long time, and the consumption of grain and oil will continue to have the attribute of low-grade food in the future; The consumption of vegetables, meat, poultry, eggs, milk and dried and fresh fruits will continue to have the normal food attribute [8]. Tang Yiqing (2021) used statistical analysis to summarize the food consumption structure of rural residents in different regions of China. The study found that the internal structure of food consumption of rural residents has been continuously optimized, in which the consumption of basic foods such as grain and vegetables has gradually decreased, and the consumption of improved food such as meat, eggs and aquatic products has continuously increased [9]. Li Miao., *et al*. (2021) used the double logarithmic linear expenditure model and LA-AIDS model to analyze the structural characteristics of meat consumption of urban residents in Xinjiang. The conclusion shows that the meat consumption of urban residents in Xinjiang is mainly beef and mutton, the price correlation between beef, mutton, pork and poultry is strong, the importance of mutton in the meat consumption of urban residents in Xinjiang is weakened, showing a diversified consumption pattern [10].

In summary, domestic scholars have conducted a lot of research on Residents' food consumption structure, and reached many important conclusions. The methods and models used are also relatively mature, which provides a reference for this research, but there are still some deficiencies. From the perspective of research, the existing research mainly starts from the national level, takes the national residents as a whole, pays insufficient attention to the regional research, and there are few special studies on Xinjiang; From the content point of view, the existing research mainly starts from the residents' life consumption structure, takes the total family life consumption as a whole, and there is less research on the rural residents' family food consumption. At the same time, Xinjiang has a unique food culture. The study of food consumption can accurately grasp the changes and characteristics of food consumption structure of rural residents in Xinjiang, and provide a scientific basis for the government to guide residents' rational consumption, optimize resource allocation and formulate relevant policies.

Data sources and research methods

Overview of the survey area

Kashgar is located in the southwest of Xinjiang, with a total area of 162000 square kilometers and a permanent population of 4.4964 million. At present, 13 ethnic minorities live in Kashgar, which is a typical multi-ethnic area. Kashgar borders the three countries with a total length of 896km. It is the fulcrum city of southern Xinjiang in the core area of the Silk Road Economic Belt and the starting point of the China-Pakistan Economic Corridor. In 2019, Kashgar's GDP was 104.8 billion yuan, ranking fifth among the 15 administrative regions of Xinjiang. Kashgar has a long history, diverse culture and relatively rich mineral resources. It is not only the main agricultural production area, but also the most representative area in Xinjiang. Based on this, Kashgar is selected for on-site household investigation to master the food consumption data of rural residents in Xinjiang.

Data sources

The data of this paper comes from the first-hand data obtained from the field household questionnaire survey conducted by the research group in Kashgar, Xinjiang in May 2021. Using the meth-

od of stratified random sampling, four townships were randomly selected from Yuepuhu County and Shule County in Kashgar City, Xinjiang. and a total of 70 families were selected to participate in the household food consumption survey. The descriptive statistics of the valid samples obtained from the survey are shown in table 1.

The data about household food consumption was obtained by semi-structured questionnaire interviews. The questionnaire includes three parts:1. basic information of family members. 2. family living expenditures. 3. family's food consumption and food prices in the past year. Food consumption survey indicators include the consumption and prices of 29 main foods such as grain, oil, vegetables, fruits, meat, livestock and poultry by-products, daily consumption food (such as tobacco, wine, tea, sugar, nuts, etc.), overseas consumption and others. It should be noted that the survey data do not record the specific food consumed outside in detail, so it is impossible to accurately obtain the food consumption in consumption outside. Therefore, this paper focuses on the food consumption of rural residents in Xinjiang at home.

Discrete variable	Sample size	Proportion (%)	Discrete variable	Sample size	Proportion (%)
Gender of head of household			Family size		
Male	48	68.57	Two persons and below	10	14.29
Female	22	31.43	Three people	9	12.86
Number of elderly (per household)			Four people	14	20.00
Zero person	53	75.71	Five people	13	18.57
One person	12	17.14	Six persons and above	24	34.29
Two or more persons	5	7.15			
Continuous variable	sample size	mean	Standard deviation	Minimum	Maximum
Annual household income (yuan/person)	70	9142.45	7176.915	500	42500

Table 1: Distribution of basic characteristics of survey objects**.**

Sample feature analysis

Differences in food consumption structure

By comparing the education level of rural household head in Xinjiang, it is found that the higher the education level of rural household head in Xinjiang, the more diversified the family's food consumption. It is reflected in grain, meat, livestock and poultry by-products and other foods. Compared with families whose head of household is below junior high school education, the per capita consumption of grain, oil and meat of families whose heads of household have a junior high school education or above is decreased, and their per capita consumption of livestock and poultry by-products and other foods is increased. It shows that the head of household has a high level of education, is exposed to more food consumption information, pays more attention to the dietary structure and nutritional needs, and gradually forms a new consumption concept, which affects the family food consumption structure.

By comparing the structure of rural family members in Xinjiang, it is found that the difference of family food consumption are reflected in per capita grain, meat, livestock and poultry by-products and other foods. Compared with families without elderly members, families with elderly members have reduced per capita consumption of oil, meat, livestock and poultry by-products and other foods, and increased per capita consumption of grain and fruit. It shows that because the diet of the elderly is relatively light, they prefer coarse grains and fruits, and family members are affected by the elderly's eating habits, the family food consumption structure is different.

By comparing the income sources of rural families in Xinjiang, it is found that there are differences in food consumption in grain, oil, vegetables, fruits, livestock and poultry by-products, etc. Households whose household income comes entirely from agriculture have more per capita consumption of the most basic livelihood foods such as grain, oil, vegetables, fruits and livestock and poultry by-products; Families with richer sources of family income have relatively less per capita food consumption, and per capita consumption of other foods is four times that of agricultural families. Since all household income comes from agricultural households, family members are engaged in heavy physical work and consume a lot of calories, and the per capita consumption of grain and oil is more. At the same time, it is more common for families engaged in agriculture to plant vegetables and fruits and raise poultry, and the per capita consumption of vegetables, fruits and livestock and poultry by-products is more.

By comparing the size of rural families in Xinjiang, it is found that in general, the smaller the size of rural families in Xinjiang, the more the per capita food consumption, The per capita food consumption of families with 4 or less people is much more than that of families with more than 4 people. Since in families with 4 or less people, most of the family members are working-age people, the food consumption is relatively high, the total dependency ratio is small, and the family economic burden is relatively light; In families with more than 4 people, most of the family members include the elderly and children, the food consumption is relatively small, but the total dependency ratio is large and the economic burden is relatively heavy.

Characteristics of food consumption structure

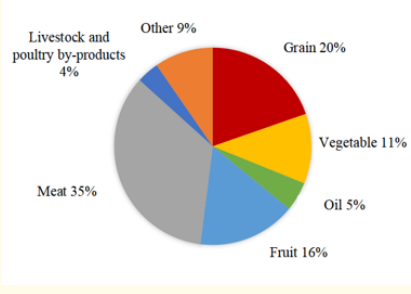

Figure 1: The proportion of different food consumption expenditures of rural households in Xinjiang.

In the household food consumption of rural residents in Xinjiang (Figure 1), the total consumption expenditure of meat and grain accounts for more than half of the household food consumption expenditure, and meat accounting for the largest proportion at 44%; Grain ranks second, accounting for 18%, indicating that meat and grain occupies an important position in the household food consumption of rural residents in Xinjiang. The food consumption of rural residents in Xinjiang is mainly meat and grain. Xinjiang is a famous "hometown of melons and fruits". The quality of melons and fruits is good. Therefore, local residents generally consume more melons and fruits. The proportion of fruits consumed by rural residents in Xinjiang reaches 11%. The consumption of other foods, vegetables, oils and livestock and poultry by-products accounted for 10%, 7%, 5% and 4% respectively.

Structural Characteristics of Animal Food Consumption

Among the per capita animal food consumption of rural residents in Xinjiang (Figure 2), rural residents in Xinjiang have a unique dietary culture. The per capita consumption of mutton accounts for the highest, 18.8kg/year, accounting for 60% of the

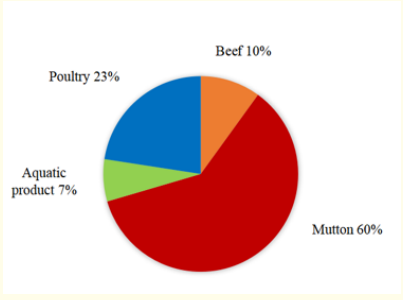

Figure 2: Proportion of per capita animal food consumption of rural residents in Xinjiang.

animal food consumption, indicating that the animal food consumption of rural residents in Xinjiang is mainly mutton; The per capita consumption of poultry meat ranked second, at 7.0kg/year, accounting for 23% of the consumption of animal food; The per capita consumption of beef is 3.1kg/year, accounting for 10% of the consumption of animal food; The per capita consumption of aquatic products is 2.2kg/year, accounting for 7% of the consumption of animal food.

Research method

AIDS model

AIDS model is a classic model for studying consumption structure. The model considers that the consumption share of a certain commodity is related to its own price, the price of other related commodities and the level of household expenditure. The basic form of the model is

$$w_i = \alpha_i + \sum_{j=1}^{n} \gamma_{ij} \ln(p_j) + \beta_i \ln\left(\frac{m}{p}\right) \quad \text{-------(1)}$$

Where, wi is the proportion of the consumption expenditure of the i-th commodity in the total consumption expenditure, pj is the price of the j-th commodity, m is the total expenditure of commodities, and p is the current price index. The price index p can be expressed as

$$\ln p = \alpha_0 + \sum_{i=1}^{n} \alpha_i \ln p_i + \frac{1}{2} \sum_{i=1}^{n} \sum_{j=1}^{n} \gamma_{ij} \ln p_i \ln p_j \quad \text{---------(2)}$$

AIDS model coefficients need to meet the basic conditions: Additivity: $\sum_{(i=1)}{}^{n}\alpha_i = 1$, $\sum_{(i=1)}{}^{n}\beta_i = 0$; Homogeneity: $\sum_{(i=1)}{}^{n}\gamma_{ij} = 0$ Symmetry: $r_{ij} = r_{ji}$.

The expenditure elasticity coefficient of the i-th commodity is:-

$$\varepsilon_i = 1 + \frac{\beta_i}{w_i} \quad \text{--------(3)}$$

The self-price elasticity coefficient of the i-th commodity is: ---

$$\varepsilon_{ii} = -1 + \frac{\gamma_{ii} - \beta_i w_i}{w_i} \quad \text{--------(4)}$$

The cross-price elasticity coefficient of the i-th commodity is:

$$\varepsilon_{ij} = \frac{\gamma_{ij} - \beta_i w_j}{w_i} \quad \text{---------(5)}$$

AIDS extension model

Through the analysis of sample characteristics, it can be seen that education level, family structure, income source and family size will affect the family food consumption structure. Therefore, the above influencing factors are added to the food consumption model to explore the elastic impact of influencing factors on the food consumption structure. Based on the AIDS model, the model is extended. The factors affecting the differences in food consumption of rural residents in Xinjiang are shown in table 2.

Add these four influencing factors to the traditional AIDS model, and the extended model is as follows:

$$w_i = \alpha_i + \sum_{j=1}^{n} \gamma_{ij} \ln(p_j) + \beta_i \ln\left(\frac{m}{p}\right) + \delta_i edu + \kappa_i eld + \lambda_i inc + \nu_i size \cdot \quad \text{---------(6)}$$

Among them, w_i is the proportion of the consumption expenditure of the i-th commodity in the total consumption expenditure, p_j is the price of the j-th commodity, m is the total expenditure of commodities, p is the current price index, edu is the education level of the head of household, eld is the proportion of the elderly in the family members, inc is the source of household income, and size is the family size. The price index p can be expressed as

$$\ln P(p) = \alpha_0 + \sum_{i=1}^{4} \alpha_i \ln p_i + \frac{1}{2} \sum_{i=1}^{4} \sum_{j=1}^{4} \gamma_{ij} \ln p_i \ln p_j \quad \text{----------(7)}$$

The coefficients of the AIDS expansion model need to meet the basic conditions: Additivity: $\sum_{(i=1)}{}^{n}\alpha_i = 1$, $\sum_{(i=1)}{}^{n}\beta_i = 0$, $\sum_{(i=1)}{}^{n}\delta_i = 0$, $\sum_{(i=1)}{}^{n}\kappa_i = 0$, $\sum_{(i=1)}{}^{n}\lambda_i = 0$, $\sum_{(i=1)}{}^{n}\nu_i = 0$; Homogeneity: $\sum_{(i=1)}{}^{n}\gamma_{ij} = 0$; Symmetry: $r_{ij} = r_{ji}$.

The expenditure elasticity coefficient of the i-th commodity is:

$$\varepsilon_i = 1 + \frac{\beta_i}{w_i} \quad \text{----------(8)}$$

The elasticity coefficient of educational demand for the i-th commodity is:

$$\delta_i = 1 + \frac{\delta_i}{w_i} \cdot \quad \text{----------(9)}$$

The elasticity coefficient of the household structure demand of the i-th commodity is:

$$\kappa_i = 1 + \frac{\kappa_i}{w_i} \cdot \quad \text{----------(10)}$$

The elasticity coefficient of income source demand of the i-th commodity is:

$$\lambda_i = 1 + \frac{\lambda_i}{w_i} \cdot \quad \text{----------(11)}$$

The elasticity coefficient of household size demand for the i-th commodity is:

$$\nu_i = 1 + \frac{\nu_i}{w_i} \quad \text{----------(12)}$$

The self price elasticity coefficient of the i-th commodity is:

$$\varepsilon_{ii} = -1 + \frac{\gamma_{ii} - \beta_i w_i}{w_i} \cdot \quad \text{----------(13)}$$

The cross-price elasticity coefficient of the i-th commodity is:

$$\varepsilon_{ij} = \frac{\gamma_{ij} - \beta_i w_j}{w_i} \quad \text{----------(14)}$$

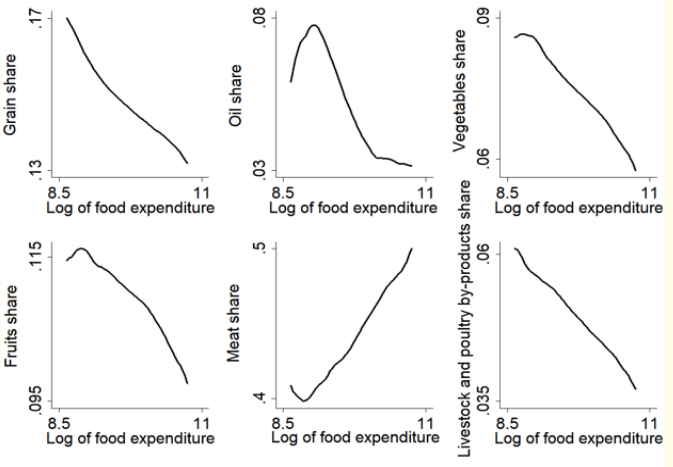

Figure 3: Trends of food expenditure shares and total food expenditure.

It can be seen from Figure 3 that, except for the oil curve, which has no obvious linear relationship, the expenditure share of grain, vegetables, fruits, meat, livestock and poultry by-products and the total food consumption expenditure show an obvious linear relationship, the linear fitting effect is good. Therefore, the almost perfect demand system (AIDS) is used to estimate the parameters.

Results and Conclusions

Use the AIDS expansion model to calculate the self price elasticity, cross price elasticity and expenditure elasticity of different foods in Xinjiang rural residents. The data are divided into seven categories: grain (wheat, rice and corn), oil, vegetables, fruits, meat (beef, mutton, aquatic products and poultry), livestock and poultry by-products (eggs and fresh milk) and other food (such as cigarettes, beverages, tea, sugar, nuts, etc.). Using the AIDS model

Variable	Symbol	Definition	Size	Average value	Standard deviation
Grain prices	Lpgra	Logarithm of grain market price	70	1.298	0.186
Oil prices	Lpoil	Logarithm of oil market price	70	2.438	0.489
Vegetable prices	Lpveg	Logarithm of vegetable market price	70	0.833	0.323
Fruit prices	Lpfru	Logarithm of fruit market price	70	1.141	0.385
Meat prices	Lpmeat	Logarithm of meat market price	70	4.140	0.282
Livestock and poultry by-products prices	Lplpbp	Logarithm of livestock and poultry by-products market price	70	2.141	0.359
Other prices	Lpoth	Logarithm of other food prices	70	2.644	1.176
Grain expenditure	Expgra	Grain expenditure share	70	0.176	0.101
Oil expenditure	Expoil	Oil expenditure share	70	0.049	0.040
vegetable expenditure	Expveg	Vegetable expenditure share	70	0.073	0.045
Fruit expenditure	Expfru	Fruit expenditure share	70	0.108	0.052
Meat expenditure	Expmeat	Meat expenditure share	70	0.444	0.144
Livestock and poultry by-products expenditure	Explpbp	Livestock and poultry by-product expenditure share	70	0.048	0.042
Other expenditure	Expoth	other food expenditure share	70	0.102	0.096
Total food expenditure	Lnm	Logarithm of total household food expenditure	70	9.775	0.450
Education level	Edu	The education level of the head of the household is 0 for below junior high school	38	0	0
		The education level of the head of the household is 1 for junior high school and above	32	1	0
Family structure	Eld	Percentage of elderly in family members	70	0.070	0.141
Income source	Income	Family income derived from non-agricultural is 0	45	0	0
		Family income derived from agriculture is 1	25	1	0
Household size	Lnsize	Logarithm of family size	70	1.402	0.491

Table 2: Variables, definitions and descriptive statistics of influencing factors of food consumption model.

	Self price elasticity and cross price elasticity							Other elasticity				
	Grain	Oil	Vegetable	Fruit	Meat	By-product	Other	Expenditure	Education level	Family structure	Income source	Household size
Grain	-1.40	-0.23	0.08	0.42	-0.28	0.20	0.06	1.16	1.14	1.35	0.88	1.04
Oil	-0.69	0.03	0.17	0.12	-0.06	0.00	0.20	0.23	0.78	-0.20	1.31	1.01
Vegetable	0.24	0.09	-0.71	-0.04	-0.40	-0.01	0.00	0.83	1.30	2.04	0.99	1.01
Fruit	0.75	0.02	-0.03	-0.99	-0.46	-0.13	-0.01	0.85	1.17	1.85	1.17	1.05
Meat	-0.09	-0.04	-0.08	-0.13	-0.56	-0.09	-0.02	1.01	0.68	0.73	0.94	0.99
By-product	0.82	-0.02	0.00	-0.28	-0.71	-0.55	0.06	0.67	1.33	0.14	1.65	0.92
Other	0.05	0.03	-0.05	-0.08	-0.31	-0.01	-1.11	1.47	1.70	0.88	0.84	0.94

Table 3: Elasticity of different food consumption of rural households in Xinjiang.

to estimate the parameters. The results show that except for the coefficient of family size, most of the parameters are statistically significant at the 1% and 5% significance levels.

The empirical results show that (Table 3). Firstly, from the self price elasticity, it can be seen that the self price elasticity of rural residents in Xinjiang for grain, vegetables, fruits, meat, livestock and poultry by-products and other foods are all negative, which satisfies the law of demand, indicating that with the increase of commodity prices, rural residents in Xinjiang will tend to reduce the purchase of such commodities; The absolute value of the self-price elasticity of grain and other commodities by rural residents in Xinjiang is more than 1, indicating that rural residents in Xinjiang are sensitive and flexible to the price changes of these commodities. Secondly, it can be seen from the cross price elasticity that the cross price elasticity is symmetrical and inelastic; The lack of cross price elasticity of grain demand of rural residents in Xinjiang shows that the grain consumption of rural residents in Xinjiang is relatively stable and less affected by other commodity prices; And the cross price elasticity of meat and other commodities is negative, indicating that when meat price increases, due to the lack of self price elasticity of meat, rural residents in Xinjiang tend to reduce the consumption of other commodities to ensure the consumption demand of meat, when the price of meat increases by 1%, the demand for grain, oil, vegetables, fruits, livestock and poultry by-products decreased by 0.28%, 0.06%, 0.40%, 0.46% and 0.71%. Thirdly, it can be seen from the price elasticity that the absolute value of the commodity's self price elasticity is more than the cross price elasticity, indicating that the consumption demand of rural residents in Xinjiang depends more on the price change of the commodity itself. Fourthly, it can be seen from the expenditure elasticity that the absolute value of the expenditure elasticity of grain, meat and other commodities is more than 1, indicating that rural residents in Xinjiang are flexible in spending on grain, meat and other commodities, when food expenditure increases by 1%, the demand for food and meat increases by 1.16% and 1.01%. Fifthly, it can be seen from the elasticity of demand changes caused by educational level that families whose head of household is junior high school or above are more inclined to increase demand for food, vegetables, fruits, livestock and poultry by-products, and other foods; it can be seen from the elasticity of demand changes caused by family structure that in a family, the higher the proportion of the elderly to family members, the more families tend to increase their consumption demand for grain, vegetables and fruits, and reduce their consumption demand of oil. For every 1% increase in the proportion of the elderly and family members, the consumption demand for food, vegetables, and fruits will increase by 1.35%, 2.04%, and 1.85%, respectively, and oil will decrease by 0.20%. From the elasticity of demand change caused by income sources, it can be seen that households whose income comes from agriculture are more inclined to increase the consumption demand for oil, fruits and livestock and poultry by-products; From the elasticity of demand change caused by family size, it can be seen that the larger the family size, the more rural families in Xinjiang tend to increase the consumption demand for grain, oil, vegetables and fruits. For every 1% increase in family size, the household consumption of grain, oil, vegetables and fruits will increase by 1.04%, 1.01%, 1.01% and 1.05% respectively.

Discussions and Conclusions

Under the background of the further development of the Rural Revitalization Strategy, the paper makes an empirical study on the structure, characteristics and influencing factors of food consumption of rural residents in Kashgar, Xinjiang, using the data of the field household survey, and draws the following conclusions

Although the proportion of grain in the daily food consumption of residents has decreased significantly, and the importance of other food consumption is gradually higher than that of grain, but grain still plays an important role in the structure of household food consumption for rural households in Xinjiang [11], which is sensitive to changes in grain prices and has greater expenditure elasticity.

As household food consumption expenditure increases, rural residents in Xinjiang will tend to increase consumption demand for high-protein foods such as meat and enjoyment foods such as tobacco, alcohol, sugar, tea and nuts. The food consumption structure of rural families in Xinjiang has gradually diversified, and the food consumption has been upgraded from the demand for food and clothing to the level of health and enjoyment. However, for the enjoyment of food, rural households in Xinjiang are still sensitive to its price changes, and the consumer demand is unstable.

Factors such as education level, family structure, income source and family size will all have effects on the food consumption structure of rural households in Xinjiang [12], The higher the education level of the head of household in rural Xinjiang, the more diversified the consumption of food types and food consumption, because the higher the education of the head of household, the more outside food information they get, and the more attention is paid to the family diet structure and nutritional balance; The higher the proportion of the elderly and family members in rural families in Xinjiang, the more the consumption demand for grain, vegetables and

fruits. The family food consumption is affected by the eating habits of the elderly in the family, the diet of the elderly is relatively light, so the family food consumption demand is more inclined to grain, vegetables and fruits; Rural households in Xinjiang whose income comes entirely from agriculture tend to increase the consumption demand for oil, fruits and livestock and poultry by-products. Due to the typical urban-rural dual economic structure of rural residents in Xinjiang, the characteristics of self-sufficiency are significant, and the food consumed by households mainly depends on their own production, and the self-sufficiency rate of rural households in Xinjiang is high; The food consumption of rural families in Xinjiang tends to decrease with the expansion of family size. Since the big family includes the elderly and children, it affects the family income level, resulting in a large total dependency ratio and heavy family economic burden. At the same time, the food consumption of the elderly and children is less than that of young adults, and the per capita food consumption shows a downward trend.

Relevant departments should ensure the supply of important food for the people's livelihood, stabilize food prices in Xinjiang, especially the prices of the most basic foods such as grain, fruit and meat, and keep prices within a certain range to avoid large price fluctuations. At the same time, relevant departments should raise the income level of rural residents in Xinjiang, promote the income of rural residents in Xinjiang, and narrow the income gap between urban and rural residents, which is an important guarantee for the food consumption of rural residents in Xinjiang. In addition, improving the education level of rural residents in Xinjiang plays an important role in scientifically and reasonably adjusting dietary behavior and further optimizing the local dietary consumption structure.

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