

Poultry Industry Trends and Consumer Analysis in Korea: Native Korean Chicken and Processed Chicken

Seoyoung Park¹, Nayeong Kim², Yunjeong Jang³, Dongmin Lee⁴, Junghoon Moon⁵

Abstract

Poultry is one of the three major meats in Korea and is a representative source of protein. The annual per capita consumption of chicken has been showing steady growth trends, with an increase of approximately 89% in 2018 compared to that of 2005. In this study, we investigated the domestic chicken production and consumption, and conducted an overall study on the domestic chicken industry. By using consumer panel data, we analyzed the characteristics of consumers buying chicken. Specifically, poultry was categorized into two types: traditional raw chicken and processed chicken, which emphasizes convenience. The purchase of raw chickens has generally been on the decline. From these, however, the proportion of native Korean chicken and chicken cuts is on the rise. Processed chicken, on the other hand, continues to grow, especially online. After examining the consumption characteristics of consumers who buy chicken, it was found that the purchase share increased with increasing age of native Korean chickens, whereas the purchase share increased with decreasing age of processed chicken. Based on these results, we confirmed that it is necessary to establish differentiated marketing and promotion strategies for each consumer target for the growth of chicken market.

Key words

Raw chicken, domestic poultry, processed chicken, chicken meat, consumption trend, consumer characteristics

I . Introduction

Poultry covers 30% of the world's meat consumption. Out of this, broiler chickens cover 89% (FAO, 2014). Chicken is one of the representative sources of protein out of the three major meats in Korea (2017 National Health Statistics, 2018). In addition, domestic chicken consumption has also increased steadily, with an annual increase in chicken consumption per capita from 7.5 kg (2005) to 14.2 kg (2018) (Ministry of Agriculture, Food and Rural Affairs, 2019). Chickens are divided into breeding chicken, layer chicken and broiler chicken according to the purpose of breeding. This study examined the current state of the market focusing on broilers that use meat.

Chicken is traditionally sold mainly in the raw form. Recently, chicken is processed and sold in various ways due to the development of storage and processing technology and the increase of single households. Therefore, the consumers' demand for chicken products has been further diversified according to characteristics of personal lifestyles (Choi et al., 2015). Accordingly, as the demand for quality of chicken products is gradually increasing according to individual characteristics, it is necessary to analyze the characteristics of consumers who purchase chicken products closely.

Firstly, this study aims to conduct a general study about the domestic chicken industry by observing the production and consumption of chicken and by examining domestic consumers' purchase patterns of chicken. Secondly, this research will utilize consumer panel data from Rural Development Administration (RDA) in South Korea to classify chicken meat according to its type, as well as analyze what characteristic lifestyles consumers have for

¹ First author, Food Biz Lab., Doctoral Student, Dept of Agricultural Economics & Rural Development, Seoul National University, syp1130@snu.ac.kr

² Second author, Food Biz Lab., Master Student, Dept of Agricultural Economics & Rural Development, Seoul National University, olivedo@snu.ac.kr

³ Third author, Food Biz Lab., Undergraduate Student(Internship), Dept of Tourism, Kyung Hee University, jeji0717@naver.com

⁴ Corresponding author, Assistant Professor, Dept of Food Processing, College of Life Sciences, Gangneung Wonju National University, dongminlee@gwnu.ac.kr

⁵ Fifth author, Food Biz Lab., Professor, Dept of Agricultural Economics & Rural Development, Seoul National University, moonj@snu.ac.kr

each type. Based on the results of the analysis, future development directions for the chicken meat and processed chicken industry will be proposed.

2. Domestic chicken meat market status

2.1 Status of number of domestic chickens

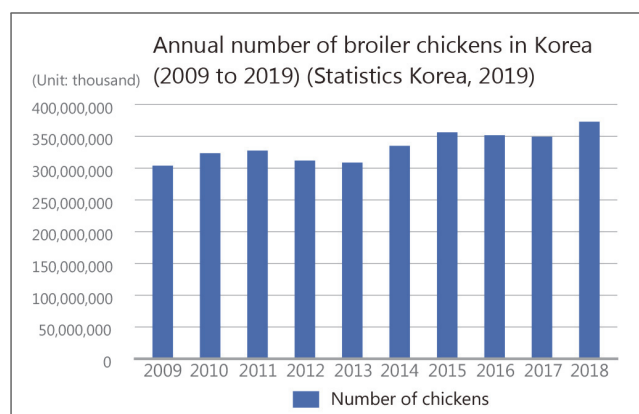


Figure 1. Annual number of broiler chickens in Korea (2009 to 2019) (Statistics Korea, 2019)

The number of chickens in 2018 totaled 372,925,000, increasing 4.67% compared to 2015, reaching the maximum since 2009. The number of chickens has continued to increase, except in 2017, where the industry was largely affected by H5N6 type highly pathogenic avian influenza (HPAI), which occurred in November 2016 (Figure 1).

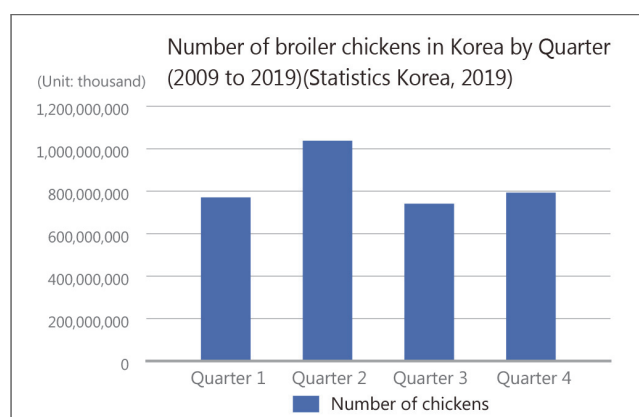


Figure 2. Number of broiler chickens in Korea by Quarter (2009 to 2019) (Statistics Korea, 2019)

According to the quarterly status, it turns out the second quarter has the largest number of chickens (Figure 2). This seems to be due to the increase in chicken consumption due to the food culture such as eating samgyetang as a healthy meal on boknal (one of the three dog days) which is in the months of July and August.

2.2 Status of domestic and imported chicken supply

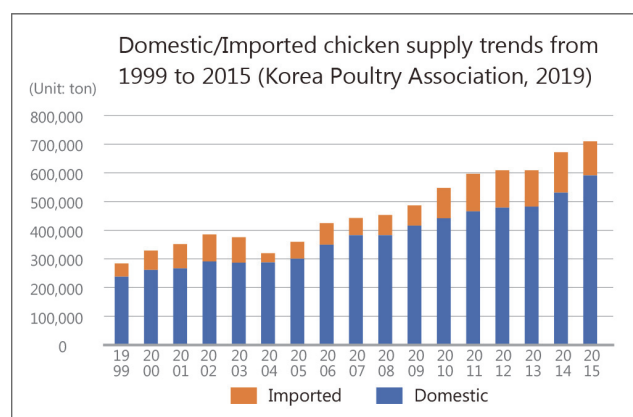


Figure 3. Domestic/Imported chicken supply trends from 1999 to 2015 (Korea Poultry Association, 2019)

Compared with 1999, domestic and imported chicken meat supply in 2015 each increased significantly by 157% and 148%, respectively (Figure 3). While imported meat supply declined significantly from 2003 to 2007 and then increased from 2010, domestic chicken supply has been steadily increasing from 1999 to 2015. The total supply increased by 150% from 283,992 tons in 1999 to 709,738 tons in 2015.

3. Chicken meat consumption in Korea

3.1 Data

The panel data from the RDA was used to determine the domestic consumption of chicken. RDA's panel data can be used to identify consumption characteristics per household based on receipts collected from more than 1,000 households living in major capital areas and metropolitan areas including Seoul, Incheon, and Gyeonggi province, for nine years from 2010 to 2018. In this study, we analyzed the domestic consumer's chicken consumption trend by categorizing the purchasing data of chicken by consumer panel into raw chicken and processed chicken. Raw chicken refers to undercooked chicken. Within the category of raw chicken, there is raw whole chicken which has not been divided into pieces, as well as chicken cuts where a whole chicken has been cut into individual parts. Processed chicken refers to chicken that has been processed through procedures where the chicken has been cooked, canned, frozen, or packaged.

The demographic characteristics of 559 households of the consumer panel used in this study are as follows

Table 1. Demographic data of the panel

| Variable | N | Mean | Std. Dev. | Min. | Max |
|---|---|------------|------------|-----------|------------|
| Age | 559 | 50.92 | 7.87 | 33 | 73 |
| Number of family members | 559 | 3.42 | 1.11 | 1 | 9 |
| Monthly income of household | 559 | 5,595,200 | 3,902,900 | 750,000 | 65,000,000 |
| Amount spent online for food products | 492 | 1,320,432 | 2,798,667 | 3,000 | 23,235,227 |
| Amount spent offline for food products | 559 | 36,656,156 | 13,027,269 | 6,665,216 | 854,642,66 |
| Full-time housewife/employed housewife | Full time housewife (1): n=224, employed housewife (0): n=335 | | | | |
| With or without children (grandchildren) or not | With children (grandchildren) (1): n=450, Without children (grandchildren) (0): n=109 | | | | |

(Table 1). The average age is 50.92 years old, the average number of family members is 3.42, and the average monthly household income is about 5,590,000 won. Over the course of nine years, these consumers bought groceries online for an average of 1,320,000 won and an average of 36,600,000 won in terms of offline shopping. Furthermore, the 559 households consist of 224 full-time housewives and 335 employed housewives, of which 450 have children or grandchildren while 109 are households without children or grandchildren.

3.2 Analysis results of chicken consumption status

1) Raw whole chicken consumption trend

In order to find out the trend of domestic raw whole chicken consumption, we divided raw chicken into raw whole chicken that has not been cut into parts and chicken cuts which have been cut according to each part, and analyzed the consumption progress through the actual consumption data of 559 households. In addition, raw whole chickens were classified into regular chickens and native Korean chickens, to observe the raw whole chicken consumption trends of domestic consumers.

(1) Raw whole chicken consumption trend

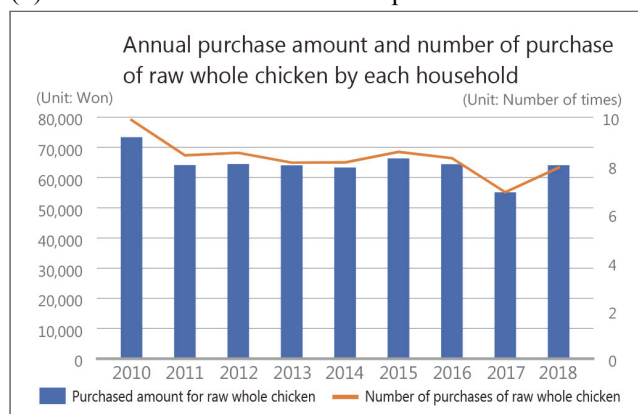


Figure 4. Annual purchase amount and number of purchase of raw whole chicken by each household

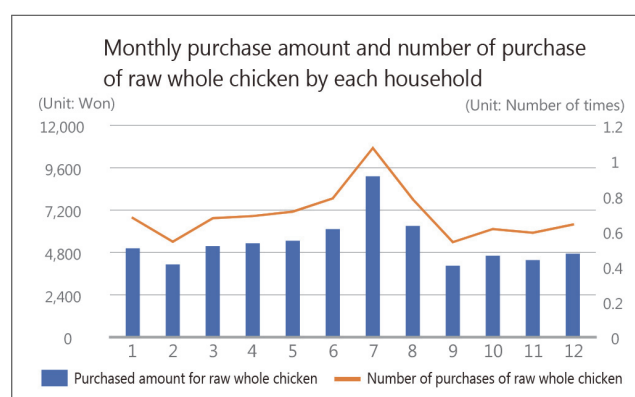


Figure 5. Monthly purchase amount and number of purchase of raw whole chicken by each household

As a result of analyzing the trend of consumption of raw whole chicken in 559 households, the purchase amount and number of purchases of raw whole chicken per household each year have been continuously decreasing from 2010 to 2018 (Figure 4). The monthly purchase amount and the number of purchases of raw whole chicken per household were the highest from June to August, where one of the three dog days takes place (Figure 5). In general, it shows the trend where the households purchase raw whole chicken less, while the consumption of raw whole chicken is mainly concentrated during the summer season on the dog days.

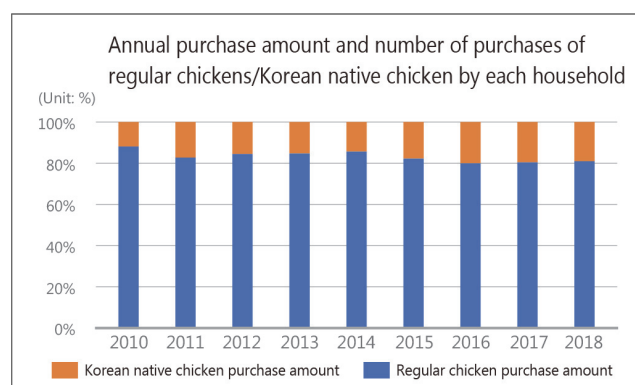


Figure 6. Annual purchase amount and number of purchases of regular chickens/Korean native chicken by each household

Out of raw whole chickens, the proportion of purchase amount for regular chickens and Korean native chickens has been analyzed. As of 2014, the proportion of Korean native chickens purchased per household has been increasing gradually every year (Figure 6). It can be perceived that even in the decreasing trend of the consumption of raw whole chickens, there is a distinctive demand for Korean native chickens.

(2) Chicken cuts consumption trend

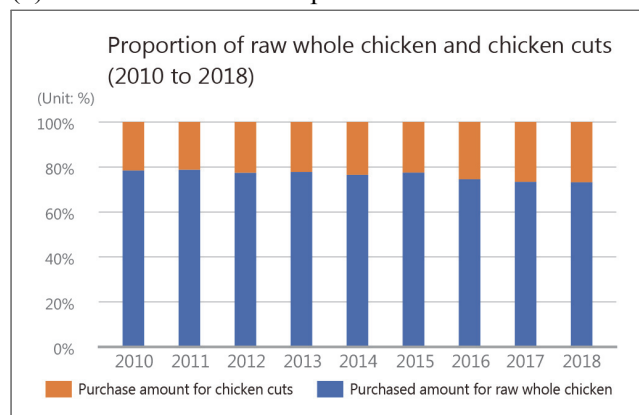


Figure 7. Proportion of raw whole chicken and chicken cuts(2010 to 2018)

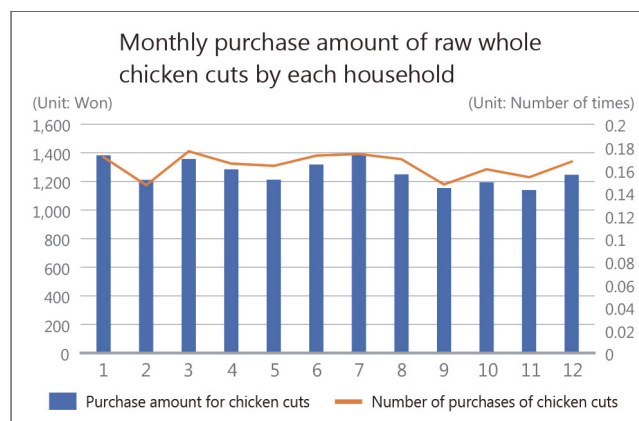


Figure 8. Monthly purchase amount of raw whole chicken cuts by each household

In order to find out the trend of consumption of chicken cuts in 9 years for 559 households, we analyzed the proportion of purchase amounts of raw whole chicken and chicken cuts. While from 2010 to 2018, the proportion of purchase amount of raw whole chicken per household decreased, the proportion of purchase amount of chicken cuts continued to increase (Figure 7). In addition, as a result of analyzing the monthly purchase amount and the number of purchases of chicken cuts per household, it was found that chicken cuts do not show seasonality, unlike raw whole chicken (Figure 8).

2) Processed chicken consumption trend

In order to examine the primary item where change occurs for the domestic consumer's consumption of processed chicken, processed chicken was classified into chicken breast, roasted-smoked chicken, soup types, bar snacks, marinated chicken and fried chicken cuts for analysis. However, the chicken cooked and sold in the restaurants was excluded from the analysis. <Table 2> describes the classification of processed chicken foods and the number of purchases by detailed items. Chicken nuggets (3,888 cases) from fried chicken cuts were the most common type, followed by sausage/ham (1,606 cases) and processed chicken breasts (1,279 cases) such as smoked chicken.

Table 2. Processed chicken classification and number of purchases by each detailed item

| Classification | Detailed item | Number of purchases | Classification | Detailed item | Number of purchases |
|------------------|---|---------------------|----------------------|--|---------------------|
| (chicken breast) | (chicken breast) | 1279 | | (dak-galbi(spicy stir-fried chicken)) | 1098 |
| (roasted-smoked) | (roasted) | 442 | | (dak-bokkeum-tang(braised spicy chicken)) | 82 |
| | (smoked) | 788 | | (teriyaki chicken) | 91 |
| (soup) | (gomtang(boiled chicken soup)) | 44 | (marinated chicken) | (buffalo wings) | 530 |
| | (dak gaejang(spicy chicken soup)) | 11 | | (bulgogi) | 461 |
| | (samgyetang(chicken soup with ginseng)) | 594 | | (jjim dak(braised spicy chicken with vegetables)) | 141 |
| | (etc) | 345 | | (kkanpunggi(deep-fried chicken in hot pepper sauce)) | 22 |
| (bar food) | (lunchbox) | 12 | (fried chicken cuts) | (dak gangjeong(sweet and sour fried chicken)) | 2763 |
| | (sausage/ham) | 1606 | | (chicken cutlet) | 214 |
| | (snack) | 7 | | (chicken nugget) | 3888 |
| | (dak kkochi(grilled chicken skewers)) | 652 | | (chicken sticks) | 664 |
| | (chicken gizzard) | 166 | | | |
| | (dak bal(chicken feet)) | 887 | | | |

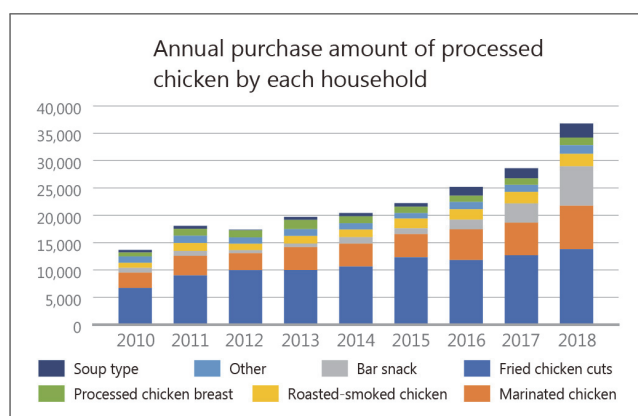


Figure 9. Annual purchase amount of processed chicken by each household

From 2010 to 2018, the purchase amount of processed chicken products per household has been generally increasing. The growth is even more rapid since 2015. According to the growth rate of the purchase amount in 2018 compared to 2015, bar snacks showed the greatest growth at 578.8%, followed by soup type (292.88%), marinated chicken (86.56%), roasted-smoked chicken (30.26%), processed chicken breast (19.32%), Fried chicken cuts (12.14%) <Figure 9>

3) Chicken meat consumption trend by purchase channel (offline/online)

In order to find out which purchase channels are used when domestic consumers purchase chicken and processed chicken, the purchase channels have been classified into online and offline purchase channels and the purchase progress regarding each chicken product for 559 households has been analyzed. Based on the results, the growth rate of average purchase amount and number of purchases for chicken products through offline and online channels were calculated in order to observe the chicken consumption trend of domestic consumers by each purchase channel.

From 2010 to 2018, we analyzed the average growth rate of chicken products (offline / online) for each purchase channel for 559 households per household. Based on the results, it was found that that online purchase channel showed noticeable growth in both raw whole chicken and processed chicken. Although regular raw chicken and chicken cuts show inverse stretch reflex on offline channels, Korean native chickens from raw whole chickens continually grow on offline channels as well, while showing noticeable growth online. In the case of processed chicken foods, both online and offline channels are growing. In particular, the growth rate was higher than the offline growth rate of raw whole chickens <Table 3>.

4. Domestic chicken meat consumption trend

4.1 Analysis of consumer characteristics by each form of chicken meat

Through the above analysis, it can be seen that the domestic consumer chicken meat consumption trend is moving from the traditional raw whole chicken form and expanding to the processed chicken form where convenience is emphasized. Furthermore, this research aims to analyze the characteristics of domestic consumers who purchase chicken meat forms. In order to do this, demographic characteristic variable, breakfast skipping degree variable, and food neophobia variables additionally surveyed from the consumer panels were used. The data from 462 respondents regarding breakfast skipping degree in 2015 and the data from 511 people who responded to the food neophobia survey in 2016 were used in the analysis.

The breakfast skipping degree variable responded by 462 panels was surveyed with a 5-point scale. The higher the point, it indicates one eats breakfast daily (Table 4).

Table 3. Growth rate of average purchase amount and number of purchases for chicken meat by each purchase channel

| Classification | | | Purchase channel | Growth rate (%) of average purchase amount | Growth rate (%) of average number of purchases |
|-------------------|-------------------|-----------------------|------------------|--|--|
| Raw chicken | Raw whole chicken | Regular chicken | Offline | -3.27 | -4.02 |
| | | | Online | 68.97 | 70.10 |
| | | Korean native chicken | Offline | 3.53 | 3.26 |
| | | | Online | 112.46 | 103.33 |
| | Chicken cuts | | Offline | 0.79 | -0.27 |
| | | | Online | 35.07 | 42.46 |
| Processed chicken | | | Offline | 14.75 | 10.42 |
| | | | Online | 60.29 | 71.74 |

Table 4. Descriptive statistics of eating habit survey variables

| Variables | Min | Max | Mean | Std. Dev. |
|------------------------|-----|-----|------|-----------|
| I eat breakfast daily. | 1 | 5 | 3.59 | 1.45 |

The indicator developed by Pliner & Hobden (1992) was used for the food neophobia survey responded by 511 households. Each question was questioned with a 7-point scale. The higher the point, it can be interpreted that the respondent is afraid of trying new foods.

Table 5. Descriptive statistics of food neophobia survey variables

| Variables | Min | Max | Mean | Std. Dev. |
|--|-----|-----|------|-----------|
| (1) I am constantly sampling new and different foods (R) | 1 | 7 | 4.47 | 1.38 |
| (2) I don't trust new foods | 1 | 7 | 3.17 | 1.43 |
| (3) If I don't know what is in a food, I won't try it | 1 | 7 | 3.12 | 1.48 |
| (4) I like foods from different countries (R) | 1 | 7 | 4.35 | 1.38 |
| (5) Ethnic food looks too weird to eat | 1 | 7 | 4.18 | 1.49 |
| (6) At dinner parties, I will try a new food (R) | 1 | 7 | 3.98 | 1.37 |
| (7) I am afraid to eat things I have never had before | 1 | 7 | 3.93 | 1.54 |
| (8) I am very particular about the foods I will eat | 1 | 7 | 3.30 | 1.39 |
| (9) I will eat almost anything (R) | 1 | 7 | 3.48 | 1.56 |
| (10) I like to try new ethnic restaurants (R) | 1 | 7 | 4.67 | 1.40 |

*(R): Inversely coded variable

In order to analyze the characteristic of consumers who purchase traditional raw whole chicken forms and processed chicken form that emphasize convenience, demographic variables, breakfast skipping degree variable and food neophobia scale was used to conduct regression analysis.

1) Study on characteristics of consumers who purchase Korean native chickens

Although the consumption of raw whole chicken, which is a traditional chicken purchase form, showed a gradually decreasing trend, the proportion of Korean native chicken form out of these showed the trend of continual increase. In this research, in order to analyze the characteristics of consumers who especially purchase Korean native chickens out of raw whole chicken, the proportion of Korean native chicken purchase amount from the total fresh chicken meat purchase amount has been set as

a dependent variable.

Firstly, regression analysis was conducted by using the data of 511 respondents who responded to the food neophobia scale. The results of the analysis showed that the proportion for Korean native chicken purchase increased (Table 6-1) the greater the fear for new foods ($p < .10$), the older one is ($p < .01$), the greater the number of family members are ($p = .05$) and when there are no children (or grandchildren) in the household ($p < .10$). According to a previous study where a questionnaire for the awareness of Korean native chicken targeting housewives with an average age of 40.9 years old, it was shown that housewives recognize Korean native chicken as a 'traditional food' or a 'health food' (Jaeseok Han, Gyeongpil Han, Jeongsook Kim, & Mihyang Kim, 1996). Since Korean native chicken are still recognized as a traditional food, it seems that consumers who have a fear in accepting new foods purchase Korean native chicken.

Table 6-1. Regression analysis results (DV= proportion of Korean native chicken purchase, IV = food neophobia and demographic variables)

| | Estimate | Std. Error | Pr(> t) | sig |
|--|---------------|--------------|--------------|-----|
| (Intercept) | -0.108 | 0.073 | 0.141 | |
| Food neophobia mean score | 0.016 | 0.009 | 0.070 | . |
| Age | 0.003 | 0.001 | 0.007 | ** |
| Number of family | 0.021 | 0.011 | 0.050 | * |
| Family income | 0.000 | 0.000 | 0.668 | |
| Grocery purchase amount(online) | 0.000 | 0.000 | 0.532 | |
| Grocery purchase amount(offline) | 0.000 | 0.000 | 0.941 | |
| Job(ref. housewife) | -0.025 | 0.016 | 0.110 | |
| Children in family(ref. Yes) | -0.043 | 0.026 | 0.097 | . |
| p-value | 0.0174 | | | |
| R² | 0.0530 | | | |
| Adjusted R² | 0.0306 | | | |
| Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 | | | | |

Subsequently, regression analysis was conducted using data from 462 people who responded to the breakfast skipping degree questionnaire. The results showed that breakfast skipping degree did not have a significant effect on the proportion of domestic chicken purchase. As with the results of Table 6-1 which conducted a regression analysis by using food neophobia variable, the greater one's age is ($p < .01$), the greater the proportion for Korean native chicken purchases (Table 6-2).

Table 6-2. Regression analysis results (DV= proportion of Korean native chicken purchase, IV = breakfast skipping degree and demographic variables)

| | Estimate | Std.Error | Pr(> t) | sig |
|--|---------------|--------------|--------------|-----------|
| (Intercept) | -0.031 | 0.081 | 0.704 | |
| having breakfast everyday | 0.005 | 0.006 | 0.365 | |
| Age | 0.004 | 0.001 | 0.005 | ** |
| Number of family | 0.015 | 0.011 | 0.189 | |
| Family income | 0.000 | 0.000 | 0.757 | |
| Grocery purchase amount(online) | 0.000 | 0.000 | 0.360 | |
| Grocery purchase amount(offline) | 0.000 | 0.000 | 0.280 | |
| Job(ref. housewife) | -0.033 | 0.017 | 0.055 | . |
| Children in family(ref. Yes) | -0.033 | 0.028 | 0.246 | |
| p-value | 0.0596 | | | |
| R² | 0.0472 | | | |
| Adjusted R² | 0.0223 | | | |
| Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 | | | | |

2) Study on characteristics of consumers who purchase processed chicken

In order to analyze the characteristics of consumers purchasing processed chicken, the proportion of the number of times one purchased processed chicken out of the purchase amount of chicken meat which includes both fresh and processed foods was set as a dependent variable.

Firstly, regression analysis was conducted by using data from 511 respondents who responded to the food neophobia scale. The results showed that food neophobia did not have a significant effect on the proportion of processed chicken products. On the other hand, the proportion of processed chicken product purchases significantly increased the lower the age was ($p < .001$) (Table 7-1). These results appear to be in accordance with previous studies showing that the intake of processed food increases the lower the one's age is (Park, Kim, & Choi, 2019).

Table 7-1. Regression analysis results (DV= proportion of processed chicken purchase, IV = food neophobia and demographic variables)

| | Estimate | Std.Error | Pr(> t) | sig |
|---------------------------|---------------|--------------|--------------|------------|
| (Intercept) | 0.847 | 0.080 | 0.000 | *** |
| Food neophobia mean score | 0.014 | 0.010 | 0.173 | |
| Age | -0.009 | 0.001 | 0.000 | *** |
| Number of family | -0.007 | 0.012 | 0.587 | |
| Family income | 0.000 | 0.000 | 0.365 | |

| | Estimate | Std.Error | Pr(> t) | sig |
|---|----------|-----------|----------|-----|
| Grocery purchase amount(online) | 0.000 | 0.000 | 0.975 | |
| Grocery purchase amount(offline) | 0.000 | 0.000 | 0.369 | |
| Job(ref. housewife) | -0.009 | 0.018 | 0.608 | |
| Children in family(ref. Yes) | -0.006 | 0.030 | 0.838 | |
| p-value | 0.0000 | | | |
| R ² | 0.1382 | | | |
| Adjusted R ² | 0.1226 | | | |
| Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 | | | | |

Subsequently, regression analysis was conducted using data from 462 people who responded to the breakfast skipping degree questionnaire. It was found that the proportion for processed chicken purchase increased the higher the breakfast skipping degree was ($p=0.05$) and the lower the age was ($p < .001$). (Table 7-2) These results are consistent with the findings of previous studies, which indicated that the more one eats irregularly by skipping breakfast, the higher the frequency is to intake processed foods (Jaehwa Seo & Yookyeong Kim, 2016). We were able to find that this agreed with the previous study which stated that the younger the age, the more one consumes processed foods (Park, Kim, & Choi, 2019).

Table 7-2. Regression analysis results (DV= proportion of processed chicken purchase, IV = breakfast skipping degree and demographic variables)

| | Estimate | Std.Error | Pr(> t) | sig |
|--|---------------|--------------|--------------|-----|
| (Intercept) | 0.944 | 0.086 | 0.000 | *** |
| having breakfast everyday | -0.013 | 0.007 | 0.050 | . |
| Age | -0.013 | 0.007 | 0.000 | *** |
| Number of family | -0.009 | 0.001 | 0.627 | |
| Family income | -0.006 | 0.012 | 0.459 | |
| Grocery purchase amount(online) | 0.000 | 0.000 | 0.878 | |
| Grocery purchase amount(offline) | 0.000 | 0.000 | 0.574 | |
| Job(ref. housewife) | 0.000 | 0.000 | 0.619 | |
| Children in family(ref. Yes) | -0.010 | 0.019 | 0.687 | |
| p-value | 0.0000 | | | |
| R² | 0.1338 | | | |
| Adjusted R² | 0.1164 | | | |
| Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 | | | | |

5. Conclusion and implications

As a result of analyzing the panel's chicken consumption trend by classifying it into raw chicken and processed chicken, it was found that the purchase of raw chicken shows a trend of gradual decrease and consumption is concentrated only on the summer holidays. In particular, the proportion of Korean native chicken purchase amount out of raw chickens showed the trend of continual increase. Through this, it was able to be confirmed that although raw chicken consumption is decreasing, there is a clear demand for Korean native chicken out of raw chicken. In the case of processed chicken, it showed continually increasing trends from 2010 to 2018. In particular, bar snacks showed a significant growth rate of 578.8% in 2018 compared to 2015. In addition, in terms of the growth of distribution channels, it was found that the online/offline market of fresh/processed chicken market has been showing growth overall. Out of these, it was found that the online channel showed fast growth rate. Accordingly, in order to examine the characteristics of consumers who purchase Korean native raw chicken, which is a traditional food ingredient, and processed chicken which have shown growth as this, analysis was carried out based on the survey conducted by Rural Development Administration. First, after analyzing the characteristics of consumers with a high proportion of Korean native chicken, a traditional food ingredient, it was found that the higher the average score for food neophobia, the greater the age, the more the family members, and when there are no children or grandchildren in the household, the more significant the influence on Korean native chicken purchase amount proportion. The purchase amount of Korean native chicken was higher for consumers who had a fear of accepting new foods since they recognize Korean native chicken as a traditional food (Jaesook Han et al., 1996). This result coincides with the conclusion of previous studies related to traditional foods which state that the older one's age was, the more one favors traditional food (Almli, Verbeke, Vanhonacker, Næs, & Hersleth, 2011; Guerrero et al., 2010) and the greater the number of family members, the more likely one shows the tendency to consume traditional foods (Vanhonacker, Lengard, Hersleth, & Verbeke, 2010). However, although there was an existing research result (Vanhonacker et al., 2010) that showed that the more likely a household has a child, the more one consumes traditional foods, this research showed the opposite results. In the previous study (Vanhonacker et al., 2010), the traditional food was in a completed menu

form, while in this research, it was in the form of raw chicken which is used as one of the raw ingredients of the traditional foods. It is thus determined that the two studies showed different results.

Second, after analyzing the characteristics of consumers who consume processed chicken food, the more one does not eat breakfast daily and the younger the age, the more it affected the increase in processed chicken consumption. As with the results of the previous studies (Jaehwa Seo & Yookyong Kim, 2016; Park, Kim, & Choi, 2019), the more frequent one skips breakfast and the younger the age, the greater the increase for processed food consumption. While it was shown that food neophobia variable has significant influence on raw Korean native chicken purchase, food neophobia did not show as a variable which influences processed chicken purchase. This seems to be because processed chicken is perceived as a more familiar product compared to Korean native chicken, since there are more number of and more regular purchases of processed chicken compared to raw Korean native chicken. It seems that the results did not show up as significant for processed foods because food neophobia degree decreases (Eertmans, Victoir, Vansant, & Van den Bergh, 2005) the more one experiences more food products.

The proportion for raw Korean native chicken purchases increased the older the age and the proportion for processed chicken purchases increased the younger the age. As such, it can be seen that there is a clear target customer group according to the form of chicken meat. In order to change the awareness of Korean native chicken which is largely perceived as a traditional food, there should be a merchandising for processed Korean native chicken. Furthermore, since consumers who do not have a regular diet such as skipping breakfast meals show a tendency to purchase these types of processed foods, there is a need to emphasize the trait of convenience. It is necessary to establish adequate sales and marketing strategies such as aptly utilizing online sales channels and introducing Korean native chicken products that using diverse processing and packaging methods, instead of the existing Korean native chicken of the raw chicken form. This will not only change the awareness of Korean native chicken, but will expand the fresh chicken meat market that is experiencing difficulties, thus change the current consumption pattern that is focused on the dog days of the summer season.

Previous studies in the natural sciences field that deal with the topic of chicken meat were mostly about physicochemical phenomenon (Jieun Hyun, Hakyeon

Kim, Jiyeon Cheon, 2019; Gigon Kim et al., 2019). In the social sciences filed, studies (Jongwon Kim, Seungyong Park. 2001; Gyeongpil Han, 2018; Hyeoncheol Kim et al., 2015) regarding consumer awareness, cooking method, and preferences are being conducted. However, there are few studies that distinguish chicken meat into raw meat (especially raw Korean native chicken) and processed chicken, and compare the traditional consumption method with the modern consumption method.

This study analyzes the domestic chicken market status and consumption trends based on various literature and consumer analysis, and by distinguishing the chicken meat form into raw chicken and processed chicken, places meaning in that it observed the characteristics of consumers who purchase chicken meat of each form. Due to the trait of the panel data of Rural Development Administration, this study used restricted variables, and thus has limitations in increasing the explanatory power of the regression model. As such, it is necessary to analyze the diverse variables which can influence purchases of processed chicken and Korean native chicken in the future by using diverse methods such as questionnaires and interviews. Furthermore, it is necessary to have studies on detailed marketing and promotion strategies concerning which characteristics of the final product will influence the consumer's purchase when communicated to the consumer.

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Reference

- 2017 National Health Statistics: National Health and Nutrition Survey Seventh Season Second Year (2017), Ministry of Health and Welfare Health Policy Department, 2018.12
- 2019.09 Main statistical indicators for agricultural and livestock foods, Ministry of Agriculture, Food and Rural Affairs, <http://kass.mafra.go.kr>

/kass/phone/kass.htm

- Almli, V. L., Verbeke, W., Vanhonacker, F., Næs, T., & Hersleth, M. (2011). General image and attribute perceptions of traditional food in six European countries. *Food Quality and Preference*, 22(1), 129-138. doi:10.1016/j.foodqual.2010.08.008
- Choe, J. Y., & Cho, M. S. (2011). Food neophobia and willingness to try non-traditional foods for Koreans. *Food Quality and Preference*, 22(7), 671-677. doi:10.1016/j.foodqual.2011.05.002
- Eertmans, A., Victoir, A., Vansant, G., & Van den Bergh, O. (2005). Food-related personality traits, food choice motives and food intake: Mediator and moderator relationships. *Food Quality and Preference*, 16(8), 714-726. doi:10.1016/j.foodqual.2005.04.007
- FAOSTAT, Food and Agriculture Organization of the United Nations, 2014 FAOSTAT, Food and Agriculture Organization of the United Nations, Retrieved from: <http://faostat.fao.org/site/610/default.aspx#ancor> (2014)
- Gomes, A. I., Barros, L., Pereira, A. I., Roberto, M. S., & Mendonça, M. (2018). Assessing children's willingness to try new foods: Validation of a Portuguese version of the child's food neophobia scale for parents of young children. *Food Quality and Preference*, 63, 151-158. doi:10.1016/j.foodqual.2017.09.002
- Guerrero, L., Claret, A., Verbeke, W., Enderli, G., Zakowska-Biemans, S., Vanhonacker, F., . . . Hersleth, M. (2010). Perception of traditional food products in six European regions using free word association. *Food Quality and Preference*, 21(2), 225-233. doi:10.1016/j.foodqual.2009.06.003
- KB Financial Group. (2013). Domestic Chicken Business Status Analysis. https://webcache.googleusercontent.com/search?q=cache:cO8LC2Bppw4J:https://www.kbfg.com/kbresearch/processFileDownloadManager.do%3Ffile_name%3D20130206102052_1.pdf+%&c d=1&hl=en&ct=clnk&gl=kr
- Knaapila, A., Tuorila, H., Silventoinen, K., Keskitalo, K., Kallela, M., Wessman, M., . . . Perola, M. (2007). Food neophobia shows heritable variation in humans. *Physiol Behav*, 91(5), 573-578. doi:10.1016/j.physbeh.2007.03.019
- Nezlek, J. B., & Forestell, C. A. (2019). Food neophobia and the Five Factor Model of personality. *Food Quality and Preference*, 73, 210-214. doi:10.1016/j.foodqual.2018.11.007

- Park, Y.-J., Kim, M.-H., & Choi, M.-K. (2019). Food purchase in e-commerce and its relation to food habit of adult women in Incheon and Gyeonggi. *Journal of Nutrition and Health*, 52(3). doi:10.4163/jnh.2019.52.3.310
- Pliner, P., & Hobden, K. (1992). Development of a scale to measure the trait of food neophobia in humans. *Appetite*, 19(2), 105-120. doi:https://doi.org/10.1016/0195-6663(92)90014-W
- Tuorila, H., Lähteenmäki, L., Pohjalainen, L., & Lotti, L. (2001). Food neophobia among the Finns and related responses to familiar and unfamiliar foods. *Food Quality and Preference*, 12(1), 29-37. doi:https://doi.org/10.1016/S0950-3293(00)00025-2
- Vanhonacker, F., Lengard, V., Hersleth, M., & Verbeke, W. (2010). Profiling European traditional food consumers. *British Food Journal*, 112(8), 871-886. doi:10.1108/00070701011067479
- Kim Ki-gon, Choi Eun-sik, Kwon Jae-hyun, Jeong Hyun-cheol, Son Si-hwan. (2019). Production Performance of 12 Korean Domestic Chicken Varieties Preserved as National Genetic Resources. *Korean Journal of Poultry Science*, 46(2), 105-115.
- Kim Jong-won, Park Seung-yong. (2001). The Perception and Consumption Pattern of Broiler Chicken in Korea. *Korean Journal of Poultry Science*, 28(3), 193-205.
- Kim Hyun-cheol, Lee Min-a, Cho Cheol-hoon, Nam Gi-chang. (2015). Housewives' Awareness of the Quality Attributes for Korean Native Chickens. *Korean Journal of Poultry Science*, 42(4), 275-283.
- Rural Development Administration. (2016). *Agricultural Management Guide, Broiler Management*. <http://www.nongsaro.go.kr/portal/ps/pst/pstb/pstbc/mngmtDtaDtl.ps?menuId=PS03213&nttSn=265&totalSearchYn=Y>
- Slaughter Status, Korea Broiler Council, Ministry of Agriculture, Food and Rural Affairs. http://www.chicken.or.kr/ch_statistics/statUser.php?Ncode=st4
- Seo Jae-hwa, & Kim Yoo-kyung. (2016). Mothers' consuming behavior of processed foods influences their children's dietary life in Gyeongbuk province. *Korea Journal of Korean Family and Education*, 28(4), 111-122.
- Choi Hyun-ho, Shin Jeong-sup, Cheon Dong-won, & Seo Dong-gyun. (2015). A Study on Segmentation and Factor Analysis of Purchasing Mechanisms used by Broiler Chicken's Consumers-Focusing on Housewives Residing in the Metropolitan Area. *Korean Journal of Agricultural Management and Policy*. 42, 295-315.
- Livestock Supply-Demand Statistics, Korea Poultry Association, Ministry of Agriculture, Food and Rural Affairs. https://www.poultry.or.kr/bbs/board.php?bo_table=menu&wr_id=31
- Han Gyeong-pil. (2018). Chicken's Mechanical and Sensual Characteristics According to Cooking Methods. *Journal of East Asian Dietary Life Conference Essay Collection*, (), 171-171.
- Han Jae-suk, Han Gyeong-pil, Kim Jeong-suk, & Kim Mi-hyang. (1996). A Survey on Housewives Awareness and Uses of Native Chickens. *Journal of East Asian Dietary Life Conference Essay Collection*, 6(3), 393-401.
- Hyun Ji-eun, Kim Hak-yeon, Cheon Ji-yeon. (2019). Effect of Jeju's Tartary Buckwheat (*Fagopyrum tataricum*) on Antioxidative Activity and Physicochemical Properties of Chicken Meat Emulsion-Type Sausage. *Journal of the Korean Society of Food Science and Nutrition*, 48(2), 231-236.