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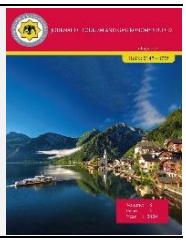

Perceptions, Attitudes and Behaviors of Consumers Towards Traditional Product Depending on Their Sources: The Case of Turkey

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Abstract

This study involves a statistical examination of perceptions, attitudes, and behaviors of 950 people with various socio-demographic characteristics from 10 metropolis that have a central position in their regions regarding traditional foods based on their sources in Turkey. Based on the sources, traditional foods were divided into three main and nine sub-categories. Traditional foods sourcing from land are consumed more frequently than other groups. It was seen that vegetative traditional food sourcing from land are consumed more than food of animal origin sourcing from land whereas vegetative traditional food sourcing from seas, lakes, rivers etc. are consumed less than food of animal origin sourcing from sea etc. Traditional foods are generally consumed for dinners. Traditional foods are mostly considered healthy and tasty. In the regression analysis conducted between the socio-demographic characteristics of individuals and the frequency of traditional food consumption in the provinces where the research was conducted, many statistically significant data were obtained.

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INTRODUCTION

The impact of globalization in the food industries of both developed and developing countries in recent years (Anders & Caswell, 2008, s.82) has paved the way for new food consumption patterns (Naska et al., 2006, s.182) and consumers tend to discover new foods not only for survival but also for pleasure (Kwon, 2015, s.1). The tendency to reshape food consumption patterns has led to an increase in the attention for traditional food products (TFPs), which are linked to a local region and considered one of the important symbols of cultural heritage (Fandos & Flavian, 2006, s.647; Verbeke & Roosen, 2009). The growing interest in TFPs has various meanings for the stakeholders of the food industry. Among these are that TFPs are considered as strategic products that have a strong symbolic value of culture and identity for consumers (Guerrero et al., 2009, s.345) and reflect the strong memories of childhood (Cerjak, Haas, Brunner, & Tomic´, 2014, s.1742). They are also regarded as products that increase profitability by triggering competitiveness and maintaining market share for producers (Skuras & Vakrou, 2002, s.898; Stewart-Knox & Mitchell, 2003, s.58; Galli, 2018, s.10) and uplift rural development and the diversification of tourism for policy makers (Trichopoulou, Vasilopoulou, Georga, Soukara, & Dilis, 2006, s.498; UNWTO, 2017).

Many definitions have been made regarding TFPs up to now which appeal to societies and cultures in many ways (Jordana, 2000; EC, 2006; Cayot, 2007; Trichopoulou, Soukara, & Vasilopoulou, 2007; Vanhonacker et al., 2010; Amilien & Hegnes, 2013; Cerjak, Haas, Brunner, & Tomic´, 2014). According to Verbeke, Guerrero, Almli, Vanhonacker, & Hersleth, (2016:5), this is mainly because (1) "traditional food" is a broad and relative rather than a concise and absolute term, (2) the "traditional" component of TFPs encompasses quality aspects characterizing other food product categories such as "local foods," "original foods," among others, and (3) consumers conceptualize TFPs differently based on their perceptions of the word "traditional." Guerrero et al., (2009, s.348) have defined TFPs as "a product frequently consumed or associated with specific celebrations and/or seasons, normally transmitted from one generation to another, made accurately in a specific way according to the gastronomic heritage, with little or no processing/manipulation, distinguished and known because of its sensory properties and associated with a certain local area, region or country". TFPs differ from other products by their geographical and cultural identities. In order for this variety to be handed down to future generations, these products must be protected (Trichopoulou, Soukara, & Vasilopoulou, 2007, s.426; Başaran, 2016, s.106). Within this context, the EU has put into practice the geographical indication labels Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Speciality Guaranteed (TSG) so as to fill the relevant legal gap, to maintain and promote agricultural production and to help the consumers with their choice of food products (Caputo, Sacchi, & Lagoudakis, 2018, s.49).

Society's attitudes towards foodstuffs in general show significant differences due to reasons such as food selection, way of consumption, beliefs and lifestyle (Olsen, Scholderer, Brunsø, & Verbeke, 2007). So as to get a better understanding of these differences, many researchers have examined the perceptions and attitudes of consumers towards TFPs (Chambers, Lobb, Butler, Harvey, & Traill, 2007; Almli, Verbeke, Vanhonacker, Nas, & Hersleth, 2011; Guerrero et al., 2009, 2010, 2012; Pieniaki Verbeke, Vanhonacker, Guerrero, & Hersleth, 2009; Vanhonacker, Lengard, Hersleth, & Verbeke, 2010; Bryła, 2015; Wang, De Steur, Gellynck, & Verbeke, 2015; Colozza & Avendaño, 2019). There are also a number of studies carried out in Turkey on this topic (Çoksöyler, 2011; Özkaya & Sağdıç, 2014; Ocak, Habiboğlu &Akkol, 2014; Başaran 2016, 2017; Onurlubaş & Taşdan, 2017). However, the focus of these studies were on certain regions and certain products in terms of scope and content. On the other hand,

there is no research in the international literature that examined the perceptions, attitudes and behaviors of costumers towards TFPs depending on sources.

Having 7 regions and 81 provinces with a population of approximately 83 million people, Turkey is a country that is surrounded on three sides by the sea, joining Europe and Asia. Turkey is also a civilization center which has hosted many societies with different beliefs, identities and cultures thanks to many of its advantages such as its wide and fertile lands, different nature and climate conditions and geographical and geopolitical location. Therefore, it has a very rich culture in terms of TFPs. Turkish cuisine consists of soups, vegetable dishes, dishes of meat, olive oil dishes, pastry products, dried legumes dishes, salads and desserts (Başaran, 2017, s.138). The purpose of this study is to investigate and reveal the perceptions, attitudes and behaviors of consumers with different socio-demographic characteristics living in 10 different central cities in different regions of Turkey.

Methodology

This research has been carried out in accordance with the ethical rules specified in the Directive of Scientific Research and Publication Ethics of Recep Tayyip Erdogan University, and ethics committee approval numbered 2019/26 was received on 03.12.2019.

Table 1 shows the technical information related to this study.

Table 1. Technical information related to the study

Consumer Profile	Volunteers consisting of both women and men with different socio-demographic characteristics aged 18 and over, living in different regions/cities of Turkey
Research area	Adana, Antalya – the Mediterranean Region / Turkey Ankara – the Central Anatolia Region / Turkey Diyarbakır, Gaziantep – the Southeastern Anatolia Region / Turkey Erzurum – the Eastern Anatolia Region / Turkey İstanbul – the Marmara Region / Turkey İzmir – the Aegean Region / Turkey Samsun, Trabzon – the Black sea Region / Turkey The total population of the cities is 37.020.529 which comprises approximately 45% of the total population of Turkey (TÜİK, 2019).
TFPs	According to their sources, TFPs are primarily categorized by land, sea, lake, river etc. and sky. Then, each category grouped according to the type of TFPs (of plant origin or animal origin). Land-based vegetable and animal TFPs of plant and animal origin are also categorized as grain, legume, fruit-vegetable, meat, milk, eggs and their products.
Data collection method	Structured Electronic Questionnaire
Date of Research	December 2019 – March 2020
Data evaluation	The data analysis was done using the IBM SPSS Statistics 23 program (*Armonk, New York U.S.A*). While evaluating the data, frequency distributions for categorical variables were formed. Whether there was a relationship between two independent categorical variables within the study was examined by using the Chi-Square test. The enter method was used and binary logistic regression analysis was applied in order to determine the factors affecting the consumption of TFPs based on land, sea, lake, river, etc. and sky. Binary logistic regression analysis is a method used to predict the probability of the dependent variable with the help of independent variables when the dependent variable has two categories.

Results and Discussion

Demographic attributes of the consumers

The demographic information of the research participants (n=950) and the cities they live in are shown in Tables 2 and 3.

Table 2. Distribution by cities

City	Number of people (n=950)	Percentage(%)
Adana	50	5.3
Ankara	94	9.9
Antalya	35	3.7
Diyarbakır	48	5.1
Erzurum	53	5.6
Gaziantep	86	9.1
İstanbul	304	32.0
İzmir	80	8.4
Samsun	108	11.4
Trabzon	92	9.7

It can be seen in Table 2 that 5.3% (50) of the participants are from the city of Adana, 9.9% (94) are from Ankara, 3.7% (35) are from Antalya, 5.1% (48) are from Diyarbakır, 5.6% (53) are from Erzurum, 9.1% (86) are from Gaziantep, 32.0% (304) are from İstanbul, 8.4% (80) are from İzmir, 11.4% (108) are from Samsun and 9.7% (92) are from Trabzon.

Table 3. Distribution of demographic information

	Number of people (n=950)	Percentage (%)	Number of people (n=950)		Percentage (%)
Sex			**Number of Family Members**		
Female	556	58.5	1-2	131	13.8
Male	394	41.5	3-4	481	50.6
Marital Status			5-6	277	29.2
Married	364	38.3	7 and more	61	6.4
Single	586	61.7	**Occupation**		
Age Group			Civil Servant	229	24.1
18-30	566	59.6	Private Sector Employee	315	33.2
31-50	353	37.2	Student	279	29.3
51 and over	31	3.3	Housewife	97	10.2
Educational Background			Retired	30	3.2
Primary School	40	4.2	**Access to Rural Settlements**		
High School	151	15.9	Yes	646	68.0
Associate's Degree	275	28.9	No	304	32.0
Bachelor or more	484	50.9			

When Table 3 is examined, it can be seen that 58.5% (556) of the participants are women whereas 41.5% (394) of them are men. 38.3% (364) of them married and 61,7% (586) of them are single. Again, 59.6% (566) of the participants are aged between 18-30 whereas 37.2% (353) of them are aged between 31-50 and 3.3% (31) of them are aged 51 and over. 4.2% (40) of the participants are primary school graduates while 15,9% of them are high school graduates, 28.9% (275) hold an associate's degree and 50.9% (484) of them are at least bachelors. The number of family members of 13,8% of the participants are between 1-2 whereas the number of family members of 50.6% (481) are between 3-4. Family member numbers are between 5-6 with 29.2% (277) of the participants and it is 7 and over with 6.4% (61) of them. Besides, regarding occupational groups, 24.1% (229) of the participants are civil servants and 33.2% (315) are private sector employees, 29.4% (279) are students, 10.2% (97) are housewives and 3.2% (30) are retired. Another information about the participants is that 68.0% (646) of them have access to rural areas while 32.0% (304) of them do not.

The perceptions, attitudes and behavior of consumers

The perceptions, attitudes and behavior of consumers towards traditional products depending on sources are shown in Table 4. According to Table 4, the most consumed TFPs are land sourced and the least consumed are sky sourced. Land-based TFPs of plant origin (Grain: 921 (96.9%); Fruit-Vegetable: 918 (96.6%)) were consumed more than TFPs of animal origin (meat and its products: 910 (95.8%) and milk and its products: 894 (94.1%)). TFPs of animal origin from sea, lake, river, etc. (613 (64.5%)) are consumed more than TFPs of plant origin (423 (44.5%)). Sky-sourced TFPs of animal origin are the least consumed among all types of TFPs. Some researchers have stated that consumers consume traditional foods less and perceive them as inconvenience food due to their lack of knowledge and skills in preparing TFPs (Damman, Eide, & Kuhnlein, 2008; Chambers, Lobb, Butler, Harvey, & Traill, 2007; Pieniaki Verbeke, Vanhonacker, Guerrero, & Hersleth, 2009; Almli, Verbeke, Vanhonacker, Nas, & Hersleth, 2011; Matenge, van der Merwe, Beer, Bosman, & Kruger, 2015). When TFPs consumption frequencies are compared, the most frequently consumed TFPs are land based with animal origin. The TFPs that are most commonly preferred by consumers are milk and milk products (679 (76.0%)), eggs and its products (606 (70.2%)), and fruit-vegetable products (605 (65,9%)), respectively. Sea, lake, river etc. based TFPs are generally consumed at a normal level. Besides, animal-based TFPs (354 (57.7%)) are consumed more frequently than vegetable-based TFPs (236 (55.8%)). TFPs based on sky are mostly consumed rarely (122 (64.6%)). TFPs of animal origin based on sky are mostly consumed rarely (122 (64.6%)). TFPs are mostly consumed as dinner food according to their sources. However, milk and milk products (554(62.0%)) as well as egg products (789(91.4%)) are consumed more for breakfast.

Table 4. Perceptions, attitudes and behaviors towards traditional foods with different sources (n=950)

	LAND BASED						**SEA, LAKE, RIVER, ETC. BASED**		**SKY BASED**
	Foods from plants			**Foods from animals**			**Foods from plants**	**Foods from animals**	**Foods from animals**
	Grains	***Fruits and Vegetables***	***Legumes***	***Meat and meat products***	***Milk and milk products***	***Eggs and egg products***			
Do you consume traditional foods?									
Yes	921 (96.9%)	918 (96.6%)	881 (92.7%)	910 (95.8%)	894 (94.1%)	863 (90.8%)	423 (44.5%)	613 (64.5%)	189 (19.9%)
No	29 (3.1%)	32 (3.4%)	69 (7.3%)	40 (4.2%)	56 (5.9%)	87 (9.2%)	527 (55.5%)	337 (35.5%)	761 (80.1%)
How often do you consume traditional foods?									
Rarely	38 (4.1%)	11 (1.2%)	46 (5.2%)	35 (3.8%)	31 (3.5%)	33 (3.8%)	128 (30.3%)	139 (22.7%)	122 (64.6%)
Regularly	434 (47.1%)	302 (32.9%)	457 (51.9%)	398 (43.7%)	184 (20.6%)	224 (26.0%)	236 (55.8%)	354 (57.7%)	50 (26.5%)
Frequently	449 (48.8%)	605 (65.9%)	378 (42.9%)	477 (52.4%)	679 (76.0%)	606 (70.2%)	59 (13.9%)	120 (19.6%)	17 (19.0%)
At what meal do you usually prefer to consume traditional foods?									
Breakfast	227 (24.6%)	66 (7.2%)	9 (1.0%)	17 (1.9%)	554 (62.0%)	789 (91.4%)	17 (4.0%)	6 (1.0%)	16 (8.5%)
Lunch	239 (26.0%)	252 (27.5%)	220 (25.0%)	219 (24.1%)	138 (15.4%)	54 (6.3%)	69 (16.3%)	69 (11.3%)	42 (22.2%)
Dinner	455 (49.4%)	600 (65.4%)	652 (74.0%)	674 (74.1%)	202 (22.6%)	20 (2.3%)	337 (79.7%)	538 (87.8%)	131 (69.3%)
Why do you consume traditional foods?									
Because of habitual consumption formation	56 (6.1%)	36 (3.9%)	45 (5.1%)	35 (3.8%)	32 (3.6%)	34 (3.9%)	4 (0.9%)	11 (1.8%)	5 (2.6%)

	LAND BASED						**SEA, LAKE, RIVER, ETC. BASED**		**SKY BASED**
	Foods from plants			**Foods from animals**			**Foods from plants**	**Foods from animals**	**Foods from animals**
	Grains	***Fruits and Vegetables***	***Legumes***	***Meat and meat products***	***Milk and milk products***	***Eggs and egg products***			
Because of their nutritional value	48 (5.2%)	70 (7.6%)	131 (14.9%)	175 (19.2%)	105 (11.7%)	163 (18.9%)	80 (18.9%)	124 (20.2%)	16 (8.5%)
Because they are natural	167 (%18.1)	77 (8.4%)	57 (6.5%)	21 (2.3%)	58 (6.5%)	74 (8.6%)	51 (12.1%)	50 (8.2%)	42 (22.2%)
Because they are filling	69 (7.5%)	20 (2.2%)	63 (7.2%)	45 (4.9%)	10 (1.1%)	54 (6.3%)	0 (0.0%)	2 (0.3%)	0 (0.0%)
Because they are traditional and part of our culture	102 (11.1%)	37 (4.0%)	66 (7.5%	27 (3.0%)	19 (2.1%)	10 (1.2%)	5 (1.2%)	16 (2.6%)	16 (8.5%)
Because I think they are delicious	219 (23.8%)	219 (23.9%)	242 (27.5%)	401 (44.1%)	122 (13.6%)	83 (9.6%)	98 (23.2%)	121 (19.7%)	63 (33.3%)
Because I think they are healthy	246 (%26.7)	446 (48.6%)	257 (29.2%)	203 (22.3%)	528 (59.1%)	422 (48.9%)	154 (36.4%)	261 (42.6%)	40 (21.2%)
Because I think they are fresh	10 (1.1%)	10 (1.1%)	9 (1.0%)	2 (0.2%)	17 (1.9%)	13 (1.5%)	28 (6.6%)	27 (4.4%)	6 (3.2%)
Because they are cheap	4 (0.4%)	3 (0.3%)	11 (1.2%)	1 (0.1%)	3 (0.3%)	10 (1.2%)	3 (0.7%)	1 (0.2%)	1 (0.5%)

TFPs from grains: *Village bread, corn bread, Vakfikebir bread, tarhana, noodles, muhlama, boza, baklava, revani, kadayıf, künefe, keşkek, ravioli, traditional soups with grains, traditional bakery products and all kinds of grain-based other TFPs.* ***TFPs from fruits and vegetables:*** *Stuffed peppers, leaf wraps, pickles, molasses, cauliflower, moussaka, traditional drinks based on fruits and vegetables, sausage with walnuts, fruit pulp, churchkhela, desserts, appetizers, dried fruit and vegetables, compote, jam, marmalade, pepper paste, pomegranate syrup, zucchini hash browns and all kinds of other fruit and vegetable based TFPs.* ***TFPs from legumes:*** *Dried beans (with sausage, meat, etc.), chickpeas and its types, bulgur and its types, kidney beans and its types, humus, legume-based salads, legume-based desserts (asure, etc.), haricot bean salad and other legume-based traditional TFPs.* ***TFPs from meat and meat products:*** *All cattle, sheep and poultry, all kebabs, doner, lahmacun, lamb stew with new onions, pita, bacon, sausage, tail fat, meatballs and its varieties, kibbeh, liver and offal products, syrup, fried meat, all other TFPs red and white meat.* ***TFPs from milk and milk products:*** *Yogurt, curd, minci, traditional village cheese, kefir, butter, milk puddings, all other TFPs from milk and milk products of land animals.* ***TFPs from eggs and egg products:*** *TFPs obtained from eggs and egg products of all kinds of animals living on land.* ***TFPs of plant origin from sea, lake, river, etc.:*** *Seaweed, sea beans, watercress, seafood, appetizers in which aquatic plants are used, all other TFPs from all kinds of plants from sea, lake, river etc.* ***TFPs of animal origin from sea, lake, river, etc.:*** *Dishes from fish growing in rivers, lake, etc. of a specific region, all other animal-based TFPs obtained from the marine environment. Eggs of these animals are also included.* ***TFPs of animal origin from the sky:*** *All kinds of TFPs made from the meat of the flying animals (goose, duck, quail, mountain rooster, partridge, etc.) living in the region. Eggs of these animals are also included.*

Consumers mostly consume TFPs because they are perceived as healthy, delicious, nutritional and natural, although some vary depending on their sources. Some other reasons why they are consumed commonly are that they are part of the tradition and culture of that society and that this has become a satisfying habitual behavior. The last thing that can be stated as a reason for the preference of TFPs is that they are cheap. Various studies on consumers' perceptions, attitudes and behaviors towards TFPs have shown that they are regarded by consumers as positive (Guerrero, 2001), healthy (Li, Yin & Saito, 2004; Almli, Verbeke, Vanhonacker, Nas, & Hersleth, 2011; Çoksöyler, 2011; Wang, De Steur, Gellynck, & Verbeke, 2015), unhealthy due to fat and microbial risks (Pieniaki Verbeke, Vanhonacker, Guerrero, & Hersleth, 2009), and that price is a drawback in reaching out TFPs (Chambers, Lobb, Butler, Harvey, & Traill, 2007; Guerrero et al., 2009; Almli, Verbeke, Vanhonacker, Nas, & Hersleth, 2011; Wang, De Steur, Gellynck, & Verbeke, 2015). Many other studies have also shown that price is not a determinant on TFPs (Pieniaki Verbeke, Vanhonacker, Guerrero, & Hersleth, 2009), that they may be cheap for those who have access to rural areas (Matenge, van der Merwe, Beer, Bosman, & Kruger, 2015; Cömert & Özata, 2016), that familiarity is an important factor in the preferability of TFPs (Pieniaki Verbeke, Vanhonacker, Guerrero, & Hersleth, 2009; Stolzenbach, Bredie, & Byrne, 2013; Wang, De Steur, Gellynck, & Verbeke, 2015; Jo, Lee, Sohn, & Kim, 2015; Tan et al., 2015; Lee & Lopetcharat, 2017), and that they are seen as favorable in that they have a natural content (Pieniaki Verbeke, Vanhonacker, Guerrero, & Hersleth, 2009; Fibri & Frøst, 2019). There is also some research suggesting

that TFPs are perceived as nutritionally rich because of its contributions to daily protein, vitamin and mineral intake (Pufall et al., 2011; Gagné et al., 2012; Matenge, van der Merwe, Beer, Bosman, & Kruger, 2015), that they are socially and culturally important (Chambers, Lobb, Butler, Harvey, & Traill, 2007; Trichopoulou, Soukara, & Vasilopoulou, 2007; Guerrero et al., 2009; Pufall et al., 2011; Cerjak, Haas, Brunner, & Tomic´, 2014; Verbeke, Guerrero, Almli, Vanhonacker, & Hersleth, 2016; Başaran, 2016), that sensorial properties such as taste, flavor and appearance have a positive affect on how they are perceived (Cayot, 2007; Bushong, King, Camerer, & Rangel, 2010; Almli, Verbeke, Vanhonacker, Nas, & Hersleth, 2011; Cerjak, Haas, Brunner, & Tomic´, 2014; Rudawska, 2014; Wang, De Steur, Gellynck, & Verbeke, 2015; Bryła, 2015) and that senses do not have an significant effect on the way they are perceived (Pieniaki Verbeke, Vanhonacker, Guerrero, & Hersleth, 2009).

The main reasons why land based TFPs of plant origin are consumed are explained as follows: Grain foods are consumed because they are healthy (246(%26.7)), tasty (219(23.8%)) and natural (167(%18.1)) whereas fruit-vegetables are consumed because they are healthy (446(48.6%)), tasty (219(23.9%)) and natural (77(8.4%)). On the other hand, legumes are consumed because they are healthy (257(29.2%)), tasty (242(27.5%)) and because of their nutritional value (131(14.9%)). The main reasons why land based TFPs of animal origin are consumed are also explained as follows: Meat and meat products are consumed because they are delicious (401(44.1%)), healthy (203(22.3%)) and because of their nutritional value (167(%18.1)) whereas eggs and egg products are consumed because they are healthy (528(59.1%)), nutritional (163(18.9%)) and delicious (83(9.6%)). Sea, lake, river, etc. based TFPs of plant origin are consumed because they are healthy (154(36.4%)), delicious (98(23.2%)) and nutritional (80(18.9%)) whereas TFPs of animal origin of the same category are consumed because they are healthy (261(42.6%)), nutritional (124(20.2%)) and delicious (121(19.7%)). Finally, sky-based TFPs of animal origin are consumed because they are delicious (63(33.3%)), natural (42(22.2%)) and healthy (40(21.2%)), respectively.

The consumption frequencies of TFPs from land, sea, lake, river etc. and sky are taken as independent variables and the results of logistic regression analysis obtained by the enter method are shown in Tables 5, 6, 7 and 8.

Table 5. Definition of dependent and independent variables

Dependent Variable			
Consumption frequency of TFPs		Rare/Normal (0) Frequent (1)	
Independent Variables		**Independent Variables**	
Sex (S)		**Occupation (O)**	
S1	1:Male 0:Female	O1	1:Private Sector Employee 0:Civil Servant
Marital Status (MS)		O2	1:Student 0:Civil Servant
MS1	1:Single 0:Married	O3	1:Housewife/Retired 0:Civil Servant
Age Group (AG)		O4	1:Other 0:Civil Servant
AG1	1: 31 and over 0: 18-30	**Rural Area (RA)**	
Educational Background (EB)		RA1	1:Access to rural areas 0:No access to rural areas
EB1	1: Associate's Degree 0:Primary/High School	**Number of Family Members (FMN)**	
EB2	1: Bachelor's and more 0: Primary/High School	FMN1	1:3-4 0:1-2
		FMN2	1:5 and more 0:1-2

The data related to TFPs from grains in Table 6 showed that the model created with independent variables such as sex, marital status, age group, education background, number of family members, occupation and access to rural

areas is statistically significant (x2=58.467; p<0.001). Hosmer and Lemeshow's goodness of fit test also shows that the model has a sufficient degree of goodness of fit (p>0.05). When the relevance of coefficients of independent variables in the model is examined, it is seen that educational background and number of family members as well as occupation are significant (p<0.05). According to this information, individuals who hold associate's degrees are 0.534 (Exp (B)) times less likely to consume grain-based TFPs than those who are graduates of primary / high schools in terms of frequency. Besides, those who have 3-4 family members are 1.646 (Exp (B)) times more likely to consume TFPs from grains than those who have 0-1 family members. On the other hand, those who have 5 or more family members are 1.685 (Exp (B)) times more likely to consume TFPs from grains than those with 0-1 members. Students are 0.525 (Exp (B)) times less likely to consume TFPs from grains compared to civil servants.

When the data related to TFPs from fruit and vegetables in Table 6 is examined, it is seen that the model created with independent variables such as sex, marital status, age group, education background, number of family members, occupation and access to rural areas is statistically significant (x2=32.367; p<0.01). Hosmer and Lemeshow's goodness of fit test also shows that the model has a sufficient degree of goodness of fit (p>0.05). When the relevance of coefficients of independent variables in the model is examined, it is seen that sex, marital status, number of family members as well as occupation parameters are significant (p<0.05). According to this information, the consumption frequency TFPs from fruits and vegetables is 0.633 (Exp (B)) times less with men compared to women. Single people are 0.474 (Exp (B)) times less likely to consume TFPs from fruits and vegetables than married people do. Besides, people with 3-4 family members are 1.581 (Exp (B)) times more likely to consume TFPs from fruits and vegetables compared to people with 0-1 family members. Again, private sector employees are 1.592 (Exp (B)) times more likely to consume this category of TFPs than civil servants, whereas the consumption frequency of students are 2.029 (Exp (B)) times more than civil servants.

According to the data related to TFPs from legumes in Table 6, it was determined that the model created with independent variables such as sex, marital status, age group, education background, number of family members, occupation and access to rural areas is not statistically significant (x2=15.271 p>0.05).

Hosmer and Lemeshow's goodness of fit test also shows that the model has a sufficient degree of goodness of fit (p>0.05). When the relevance of coefficients of independent variables in the model is examined, it is seen that the parameters of sex, marital status and access to rural areas are significant (p<0.01). According to this information, the consumption frequency of TFPs from meat and meat products with men is 2.139 (Exp (B)) times more than it is with women. Single people are 0.526 (Exp (B)) times less likely to consume TFPs of this category than married people. People who have access to rural areas are 0.663 (Exp (B)) times less likely to consume TFPs from meat and meat products compared to those who have no access to rural areas.

Table 6. Independent variables affecting the consumption frequencies of TFPs of plant origin from land and the relevance of the coefficients in the model

LAND-BASED

Independent Variables	From Grains								From Fruit and Vegetables								From Legumes							
	B	Std. Error	Wald	S.D	p	Exp (B)	For Exp (B) 95% GA		B	Std. Error	Wald	S.D	p	Exp (B)	For Exp (B) 95% GA		B	Std. Error	Wald	S.D	p	Exp (B)	For Exp (B) 95% GA	
							Down	Top							Down	Top							Down	Top
S1	0.069	0.144	0.229	1	0.633	1.072	0.807	1.422	-0.457	0.150	9.234	1	**0.002****	0.633	0.471	0.850	0.020	0.147	0.019	1	0.891	1.020	0.765	1.360
MS1	-0.259	0.185	1.961	1	0.161	0.772	0.538	1.109	-0.746	0.196	14.404	1	**0.000*****	0.474	0.323	0.697	-0.163	0.186	0.765	1	0.382	0.850	0.590	1.224
AG1	0.183	0.176	1.076	1	0.300	1.200	0.850	1.695	0.104	0.184	0.319	1	0.572	1.110	0.773	1.593	0.267	0.180	2.203	1	0.138	1.307	0.918	1.860
EB			11.977	2	0.003						0.563	2	0.754						2.971	2	0.226			
EB1	-0.628	0.207	9.164	1	**0.002****	0.534	0.355	0.801	-0.084	0.215	0.153	1	0.696	0.919	0.603	1.402	0.368	0.214	2.966	1	0.085	1.445	0.950	2.196
EB2	-0.115	0.188	0.373	1	0.542	0.892	0.617	1.288	0.048	0.201	0.057	1	0.812	1.049	0.707	1.556	0.208	0.196	1.128	1	0.288	1.231	0.839	1.807
FMN			5.964	2	0.051						4.703	2	0.095						2.056	2	0.358			
FMN1	0.499	0.213	5.464	1	**0.019***	1.646	1.084	2.501	0.458	0.218	4.397	1	**0.036***	1.581	1.030	2.425	0.207	0.217	0.914	1	0.339	1.230	0.804	1.883
FMN2	0.522	0.235	4.955	1	**0.026***	1.685	1.064	2.669	0.460	0.238	3.737	1	0.053	1.584	0.994	2.525	0.003	0.238	0.000	1	0.989	1.003	0.630	1.599
O			7.653	4	0.105						13.147	4	0.011						5.068	4	0.280			
O1	-0.272	0.210	1.681	1	0.195	0.762	0.504	1.150	0.465	0.224	4.300	1	**0.038***	1.592	1.026	2.469	-0.321	0.211	2.304	1	0.129	0.726	0.479	1.098
O2	-0.645	0.251	6.586	1	**0.010***	0.525	0.321	0.859	0.707	0.265	7.120	1	**0.008****	2.029	1.207	3.411	0.007	0.256	0.001	1	0.978	1.007	0.610	1.664
O3	-0.034	0.286	0.014	1	0.907	0.967	0.552	1.693	-0.284	0.292	0.948	1	0.330	0.753	0.425	1.334	0.106	0.280	0.144	1	0.704	1.112	0.643	1.924
O4	-0.426	0.256	2.771	1	0.096	0.653	0.395	1.079	0.439	0.270	2.643	1	0.104	1.551	0.914	2.632	-0.176	0.263	0.449	1	0.503	0.839	0.501	1.403
RA1	0.109	0.148	0.543	1	0.461	1.115	0.834	1.491	-0.086	0.154	0.314	1	0.576	0.917	0.678	1.241	-0.002	0.148	0.000	1	0.992	0.998	0.748	1.334
Constant	0.052	0.343	0.023	1	0.880	1.053			0.580	0.361	2.584	1	0.108	1.786			-0.528	0.348	2.306	1	0.129	0.590		

Model Summary:
x^2=58.467 **p=0.000***** DSO=59.0%
Hosmer and Lemeshow Goodness of Fit Test; x^2=13.669 p=0.091

Model Summary:
x^2=32.367 **p=0.001**** DSO=67.1%
Hosmer and Lemeshow Goodness of Fit Test; x^2=12.275 p=0.139

Model Summary:
x^2=15.271 p=0.227 DSO=58.7%
Hosmer and Lemeshow Goodness of Fit Test; x^2=8.130 p=0.421

*p<0.05 **, p<0.01 ***, p<0.001, B=Regression coefficient, Exp (B)=Odds Rate, Std. Error=Standard Error, S.D=Degree of freedom, p=Significance Level, GA=Confidence Interval, DSO= The Correct classification rate of the model

The data related to TFPs from milk and milk products in Table 7 showed that the model created with independent variables such as sex, marital status, age group, education background, number of family members, occupation and access to rural areas is statistically significant ($x2=42.839$; $p<0.001$). Hosmer and Lemeshow's goodness of fit test also shows that the model has a sufficient degree of goodness of fit ($p>0.05$). When the relevance of coefficients of independent variables in the model is examined, it is seen that the parameters of sex, marital status and access to rural areas are significant ($p<0.05$). According to this information, the consumption frequency of TFPs from milk and milk products with men is 0.609 (Exp (B)) times less than it is with women. Single people are 0.619 (Exp (B)) times less likely to consume TFPs of this category than married people. People who have access to rural areas are 0.560 (Exp (B)) times less likely to consume TFPs from milk and milk products compared to those who have no access to rural areas.

The data related to TFPs from eggs and egg products in Table 7 showed that the model created with independent variables such as sex, marital status, age group, education background, number of family members, occupation and access to rural areas is statistically significant ($x2=54.693$; $p<0.001$). Hosmer and Lemeshow's goodness of fit test also shows that the model has a sufficient degree of goodness of fit ($p>0.05$). When the relevance of coefficients of independent variables in the model is examined, it is seen that the parameters of marital status, educational background and number of family members are significant ($p<0.05$). According to this information, the consumption frequency of TFPs from egg and egg products with single people is 0.463 (Exp (B)) times less than it is with married people. People who hold an associate's degree are 0.584 (Exp (B)) times less likely to consume TFPs of this category than those who are graduates of primary/high schools. Besides, people who have 5 and more family members are 1.863 (Exp (B)) times more likely to consume TFPs from egg and egg products compared to those who have 0-1 family members.

Table 7. Independent variables affecting the consumption frequencies of TFPs of animal origin from land and the relevance of the coefficients in the model

LAND-BASED

Independent Variables	From meat and meat products								From milk and milk products								From eggs and egg products							
	B	Std. Error	Wald	S.D	p	Exp (B)	For Exp (B) 95% GA		B	Std. Error	Wald	S.D	p	Exp (B)	For Exp (B) 95% GA		B	Std. Error	Wald	S.D	p	Exp (B)	For Exp (B) 95% GA	
							Down	Top							Down	Top							Down	Top
S1	0.760	0.146	27.236	1	**0.000*****	2.139	1.608	2.846	-0.497	0.169	8.624	1	**0.003****	0.609	0.437	0.848	-0.052	0.162	0.104	1	0.747	0.949	0.692	1.303
MS1	-0.643	0.189	11.576	1	**0.001****	0.526	0.363	0.761	-0.480	0.226	4.514	1	**0.034***	0.619	0.397	0.963	-0.771	0.216	12.751	1	**0.000*****	0.463	0.303	0.706
AG1	-0.153	0.180	0.719	1	0.396	0.858	0.603	1.221	-0.014	0.215	0.004	1	0.949	0.986	0.647	1.504	0.136	0.205	0.439	1	0.508	1.146	0.766	1,714
EB			0.394	2	0.821						4.906	2	0.086						12.586	2	0.002			
EB1	-0.038	0.209	0.033	1	0.855	0.963	0.639	1.449	-0.350	0.244	2.070	1	0.150	0.704	0.437	1.135	-0.538	0.233	5.323	1	**0.021***	0.584	0.370	0.922
EB2	0.066	0.191	0.119	1	0.730	1.068	0.735	1.553	0.069	0.230	0.091	1	0.763	1.072	0.683	1.683	0.093	0.224	0.172	1	0.679	1.097	0.707	1.703
FMN			2.227	2	0.328						3.789	2	0.150						5.472	2	0.065			
FMN1	0.281	0.218	1.652	1	0.199	1.324	0.863	2.031	0.306	0.255	1.435	1	0.231	1.358	0.823	2.239	0.376	0.247	2.314	1	0.128	1.457	0.897	2.366
FMN2	0.350	0.238	2.162	1	0.141	1.419	0.890	2.261	-0.022	0.272	0.007	1	0.935	0.978	0.574	1.667	0.622	0.270	5.316	1	**0.021***	1.863	1.098	3.162
O			3.758	4	0.440						6.747	4	0.150						1.103	4	0.894			
O1	-0.208	0.216	0.929	1	0.335	0.812	0.531	1.240	0.400	0.259	2.393	1	0.122	1.492	0.899	2.478	-0.161	0.253	0.405	1	0.525	0.852	0.519	1.397
O2	-0.180	0.256	0.492	1	0.483	0.836	0.506	1.380	0.152	0.299	0.256	1	0.613	1.164	0.647	2.093	-0.241	0.287	0.706	1	0.401	0.786	0.448	1.378
O3	-0.469	0.286	2.691	1	0.101	0.626	0.357	1.096	-0.321	0.333	0.933	1	0.334	0.725	0.378	1.392	-0.023	0.352	0.004	1	0.948	0.977	0.490	1.950
O4	0.027	0.264	0.011	1	0.917	1.028	0.613	1.724	0.329	0.315	1.088	1	0.297	1.390	0.749	2.579	-0.266	0.299	0.790	1	0.374	0.767	0.427	1.378
RA1	-0.411	0.149	7.608	1	**0.006****	0.663	0.495	0.888	-0.580	0.185	9.791	1	**0.002****	0.560	0.389	0.805	-0.161	0.169	0.910	1	0.340	0.851	0.611	1.185
Constant	0.400	0.349	1.316	1	0.251	1.492			1.858	0.425	19.138	1	0.000	6.411			1.311	0.405	10.457	1	0.001	3.709		
Model Summary: x^2=56.202 **p=0.000***** DSO=62.3% Hosmer and Lemeshow Goodness of Fit Test; x^2=9.928 p=0.270									Model Summary: x^2=42.839 **p=0.000***** DSO=76.1% Hosmer and Lemeshow Goodness of Fit Test; x^2=15.969 p=0.053								Model Summary: x^2=54.693 **p=0,000***** DSO=70.7% Hosmer and Lemeshow Goodness of Fit Test; x^2=7.026 p=0.534							

**p<0.05 **, p<0.01 ***, p<0.001, B=Regression coefficient, Exp (B)=Odds Rate, Std. Error=Standard Error, S.D=Degree of freedom, p=Significance Level, GA=Confidence Interval, DSO= The Correct classification rate of the model.*

The data related to TFPs of plant-origin from sea, lake, river, etc. in Table 8 showed that the model created with independent variables such as sex, marital status, age group, education background, number of family members, occupation and access to rural areas is statistically significant ($x2=38.089$; $p<0.001$). Hosmer and Lemeshow's goodness of fit test also shows that the model has a sufficient degree of goodness of fit ($p>0.05$). When the relevance of coefficients of independent variables in the model is examined, it is seen that the parameters of sex and number of family members are significant ($p<0.01$). According to this information, the consumption frequency of TFPs of plant-origin from sea, lake, river, etc. with men is 2.493 (Exp (B)) times more than it is with women. Besides, people who have 3-4 family members are 2.530 (Exp (B)) times more likely to consume TFPs of plant-origin from sea, lake, river, etc. compared to those who have 0-1 family members.

The data related to TFPs of animal-origin from sea, lake, river, etc. in Table 8 showed that the model created with independent variables such as sex, marital status, age group, education background, number of family members, occupation and access to rural areas is statistically significant ($x2=39.778$; $p<0.001$). Hosmer and Lemeshow's goodness of fit test also shows that the model has a sufficient degree of goodness of fit ($p>0.05$). When the relevance of coefficients of independent variables in the model is examined, it is seen that the parameters of sex, occupation and access to rural areas are significant ($p<0.05$). According to this information, the consumption frequency of TFPs of animal-origin from sea, lake, river, etc. with men is 2.074 (Exp (B)) times more than it is with women. Besides, private sector employees are 0.432 (Exp (B)) times less likely to consume TFPs of animal-origin from sea, lake, river, etc. compared to those who work in the public sector. On the other hand, the consumption frequency of this category with housewives and retired people are 0.363 (Exp (B)) times less than it is with civil servants. Again, people who have access to rural areas are 0.633 (Exp (B)) times less likely to consume TFPs of animal-origin from sea, lake, river, etc. compared to those who have no access to rural areas.

The data related to TFPs of animal-origin from the sky in Table 8 showed that the model created with independent variables such as sex, marital status, age group, education background, number of family members, occupation and access to rural areas is statistically significant ($x2=41.3976$; $p<0.001$). Hosmer and Lemeshow's goodness of fit test also shows that the model has a sufficient degree of goodness of fit ($p>0.05$). When the relevance of coefficients of independent variables in the model is examined, it is seen that the parameters of sex, age group, educational background and occupation are significant ($p<0.05$). According to this information, the consumption frequency of TFPs of animal-origin from the sky with men is 2.572 (Exp (B)) times more than it is with women. Besides, people who are 31 years old and more are 0,281 (Exp (B)) times less likely to consume TFPs of animal-origin from the sky compared to those who are between 18 and 30. On the other hand, people who hold an associate's degree are 0.301 (Exp (B)) times less likely to consume TFPs of animal-origin from the sky than those who are graduates of primary/high school. Again, people who hold a bachelor's degree or more are 0.250 (Exp (B)) times less likely to consume TFPs of this category compared to those who are graduates of primary/high school. Finally, housewives and the retired are 5.822 (Exp (B)) times more likely to consume TFPs of animal-origin from the sky compared to civil servants.

Onurlubaş & Taşdan (2017) have stated that men consume TFPs less than women do, and marital status does not have any effect on the frequency consumption. Moreover, the frequency of TFPs consumption has a positive correlation with age. However, the decrease in the consumption frequency of TFPs is associated with an increase in

the number of family members. Similarly, higher levels of education are associated with less consumption of TSPs. In this respect, Hopping et al., (2010) and Matenge, van der Merwe, Beer, Bosman, & Kruger, (2015) revealed similar findings that the frequency of TFP consumption increases in parallel with the age factor. Furthermore, Hopping et al., (2010); have reported that those who have a higher degree in education consume TFPs less compared to those who have a poor educational background.

Table 8. Independent variables affecting the consumption frequencies of TFPs from sea, lake, river etc. and the sky and the relevance of the coefficients in the model

SEA, LAKE, RIVER, ETC. BASED																**SKY-BASED**							
Independent Variables	**From Plants**								**From Animals**							**From Animals**							
	B	**Std. Error**	**Wald**	**S.D**	**p**	**Exp (B)**	**For Exp (B) 95% GA**		**B**	**Std. Error**	**Wald**	**S.D**	**p**	**Exp (B)**	**For Exp (B) 95% GA**	**B**	**Std. Error**	**Wald**	**S.D**	**p**	**Exp (B)**	**For Exp (B) 95% GA**	
							Down	**Top**							**Down**	**Top**							**Down**	**Top**
S1	0.914	0.239	14.666	1	**0.000*****	2.493	1.562	3.980	0.729	0.225	10.463	1	**0.001****	2.074	1.333	3.226	0.945	0.360	6.885	1	**0.009****	2.572	1.270	5.210
MS1	-0.469	0.282	2.774	1	0.096	0.625	0.360	1.087	-0.499	0.277	3.240	1	0.072	0.607	0.352	1.045	0.281	0.482	0.341	1	0.559	1.325	0.515	3.406
AG1	-0.267	0.280	0.906	1	0.341	0.766	0.442	1.326	0.222	0.263	0.712	1	0.399	1.248	0.746	2.090	-1.270	0.573	4.903	1	**0.027***	0.281	0.091	0.864
EB			4.830	2	0.089						1.516	2	0.469						8.949	2	0.011			
EB1	0.501	0.383	1.708	1	0.191	1.650	0.779	3.494	-0.121	0.318	0.144	1	0.704	0.886	0.475	1.654	-1.202	0.520	5.344	1	**0.021***	0.301	0.109	0.833
EB2	-0.152	0.322	0.223	1	0.636	0.859	0.456	1.615	-0.322	0.284	1.283	1	0.257	0.725	0.415	1.265	-1.385	0.468	8.760	1	**0.003****	0.250	0.100	0.626
FMN		.	8.149	2	0.017						2.254	2	0.324						0.656	2	0.720			
FMN1	0.928	0.327	8.040	1	**0.005****	2.530	1.332	4.804	0.455	0.316	2.066	1	0.151	1.576	0.848	2.930	-0.368	0.629	0.342	1	0.558	0.692	0.202	2.375
FMN2	0.639	0.361	3.136	1	0.077	1.894	0.934	3.840	0.275	0.346	0.635	1	0.426	1.317	0.669	2.593	-0.083	0.628	0.017	1	0.895	0.920	0.269	3.153
O			1.507	4	0.825						12.980	4	0.011						10.592	4	0.032			
O1	0.111	0.321	0.119	1	0.730	1.117	0.596	2.094	-0.838	0.341	6.055	1	**0.014***	0.432	0.222	0.843	-0.232	0.647	0.129	1	0.720	0.793	0.223	2.816
O2	-0.195	0.409	0.228	1	0.633	0.823	0.369	1.833	-0.622	0.392	2.524	1	0.112	0.537	0.249	1.157	0.648	0.698	0.862	1	0.353	1.912	0.487	7.504
O3	-0.102	0.499	0.041	1	0.839	0.903	0.340	2.402	-1.013	0.429	5.565	1	**0.018***	0.363	0.157	0.843	1.762	0.833	4.469	1	**0.035***	5.822	1.137	29.809
O4	-0.273	0.389	0.492	1	0.483	0.761	0.355	1.632	0.142	0.426	0.111	1	0.739	1.152	0.500	2.658	-0.501	0.746	0.452	1	0.502	0.606	0.141	2.612
RA1	-0.175	0.247	0.502	1	0.478	0.839	0.517	1.362	-0.457	0.232	3.881	1	**0.049***	0.633	0.402	0.998	0.481	0.439	1.204	1	0.273	1.618	0.685	3.821
Constant	0.303	0.556	0.297	1	0.585	1.354			1.956	0.543	12.982	1	0.000	7.074			-0.285	0.880	0.105	1	0.746	0.752		
Model Summary: x^2=38.089 **p=0,000***** DSO=70.4% Hosmer and Lemeshow Goodness of Fit Test; x^2=10.636 p=0.223									Model Summary: x^2=39.778 **p=0.000***** DSO=77.0% Hosmer and Lemeshow Goodness of Fit Test; x^2=4.234 p=0.835							Model Summary: x^2=41.397 **p=0,000***** DSO=76.2% Hosmer and Lemeshow Goodness of Fit Test; x^2=23.729 p=0.103							

**p<0.05 **, p<0.01 ***, p<0.001, B=Regression coefficient, Exp (B)=Odds Rate, Std. Error=Standard Error, S.D=Degree of freedom, p=Significance Level, GA=Confidence Interval, DSO= The Correct classification rate of the model*

The relationship between the consumption frequencies of TFPs by cities based on their sources is shown in Table 9. The results of the chi-square test have revealed that there is a statistically meaningful relationship between the cities and the consumption frequencies of TFPs from grains ($p<0.001$), fruits-vegetables ($p<0.001$), legumes ($p<0.001$), milk and milk products ($p<0.001$), eggs and egg products ($p<0.001$), from sea, lake, river, etc. both plant ($p<0.001$), and animal ($p<0.01$) based, and from the sky ($p<0.01$). However, it has been determined that there is no statistically meaningful relationship between the cities and the consumption frequency of TFPs from meat and meat products ($p>0.05$). Accordingly;

Land-based

TFPs from grains

Grain-based TFP consumption frequency rate (frequently: 6.0%) of individuals who live in Antalya is significantly higher than their rare/normal consumption rate (1.7%). Likewise, grain-based TFP consumption frequency rate (frequently: 8.0%) of individuals who live in Erzurum is significantly higher than their rare/normal consumption rate (3.0, 6.0%). On the other hand, grain-based TFP consumption frequency rate (rare/normal: 35.6%) of individuals who live in İstanbul is significantly higher than their frequent consumption rate (27.6%). Again, the rate of frequent consumption of grain-based TFPs (11.4%) of individuals living in İzmir is significantly higher than their rare/normal consumption rate (5.9%).

TFPs from fruits and vegetables

Fruit and vegetable-based TFP consumption frequency rate (rare/normal: 7.3%) of individuals who live in Diyarbakır is significantly higher than their frequent consumption rate (4.1%) whereas fruit and vegetable-based TFP consumption frequency rate (frequent: 10.1%) of individuals who live in Gaziantep is significantly higher than their rare/normal consumption rate (5.8%). On the other hand, fruit and vegetable-based TFP consumption frequency rate (frequent: 10.4%) of individuals who live in İzmir is significantly higher than their rare/normal consumption rate (4.2%) whereas fruit and vegetable-based TFP consumption frequency rate (rare/normal: 13.7%) of individuals who live in Trabzon is significantly higher than their frequent consumption.

TFPs from legumes

Legume-based TFP consumption frequency rate (frequent: 6.1%) of individuals who live in Antalya is significantly higher than their rare/normal consumption rate (2.4%) whereas legume-based TFP consumption frequency rate (rare/normal: 6.8%) of individuals who live in Diyarbakır is significantly higher than their frequent consumption rate (1.3%). Again, legume-based TFP consumption frequency rate (frequent: 12.7%) of individuals who live in İzmir is significantly higher than their rare/normal consumption rate (5.8%) whereas legume-based TFP consumption frequency rate (rare/normal: 11.7%) of individuals who live in Trabzon is significantly higher than their frequent consumption rate (5.8%).

TFPs from milk and milk products

Regarding TFPs obtained from milk and milk products, TFP consumption frequency rate (frequent: 11.5%) of individuals who live in Ankara is significantly higher than their rare/normal consumption rate (6.5%) whereas TFP consumption frequency rate (rare/normal: 8.8%) of individuals who live in Erzurum is significantly higher than their

frequent consumption rate (4.7%). Again, TFP consumption frequency rate (frequent: 10.9%) of individuals who live in İzmir is significantly higher than their rare/normal consumption rate (1.9%) whereas TFP consumption frequency rate (rare/normal: 12.6%) of individuals who live in Trabzon is significantly higher than their frequent consumption rate (7.8%).

TFPs from eggs and egg products

Regarding TFPs obtained from eggs and egg products, TFP consumption frequency rate (rare/normal: 14.8%) of individuals who live in Samsun is significantly higher than their frequent consumption rate (9.4%) whereas TFP consumption frequency rate (rare/normal: 13.2%) of individuals who live in Trabzon is significantly higher than their frequent consumption rate (8.6%).

Sea, lake, river, etc. based

TFPs from plants

Regarding TFPs obtained from sea, like, river, etc., plant-based TFP consumption frequency rate (rare/normal: 14.8%) of individuals who live in Gaziantep is significantly higher than their frequent consumption rate (1.7%).

TFPs from animals

Regarding TFPs obtained from sea, like, river, etc., animal-based TFP consumption frequency rates (rare: 10.8% and normal: 10.2%) of individuals who live in Gaziantep are significantly higher than their frequent consumption rate (2.5%) whereas animal-based TFP consumption frequency rate (frequent: 40.0%) of individuals who live in İstanbul is significantly higher than both their normal consumption rate (26.8%) and rare consumption rate (7.2%).

Sky-based

TFPs from animals

Regarding TFPs obtained from the sky, animal-based TFP consumption frequency rate (rare: 17.2%) of individuals who live in Ankara is significantly higher than their normal/frequent consumption rate (4.5%) whereas animal-based TFP consumption frequency rate (normal/frequent: 13.4%) of individuals who live in Diyarbakır is significantly higher than their rare consumption rate (4.9%).

Conclusion

TFPs which contribute to the development and sustainability of rural areas are important elements of the culture, identity and heritage of communities. They have also attracted a great deal of attention of consumers, producers, policy makers and researchers in recent years. This research is among the most comprehensive in both national and international literature in which TFPs are investigated according to their sources.

This study has investigated consumers' perceptions, attitudes and behaviors towards TFPs in Turkey in which there is a rich culinary culture because of the fact that it has hosted hundreds of different cultures, identities and beliefs from past to present. Land-based TFPs are consumed more than TFPs from the sea, lake, river etc. and the sky. The least consumed traditional foods are TFPs that are based on the sky. In terms of consumption frequencies, TFPs of animal origin from both land and sea, lake, river etc. are consumed more frequently than TFPs of plant origin. TFPs are mostly consumed for dinner, except for milk, eggs and their products. Depending on the sources,

consumers are observed to consume TFPs mostly because they perceive it as healthy, delicious, nutritional and natural.

The regression analysis between the consumption frequencies of TFPs according to their sources and the socio-demographic characteristics of the consumers revealed that there is a number of data with statistical significance between the frequencies of consumptions in different cities as a result of the investigation carried out within the study. In the light of this information, it can be concluded that the attitudes, perceptions and behaviors of the consumers towards TFPs across the country cannot be said to have a homogeneous structure because of Turkey's geographical size, climate conditions, feed stock diversity and multiculturalism as well as because of reasons such as different consumer behaviors.

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