Consumer's Fish Purchase Behavior in Tekirdag

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Geliş Tarihi (Received): 06.03.2016 Kabul Tarihi (Accepted): 10.10.2016

Increase in world population in recent years has led to the lack of animal protein source having an important role in human nutrition. Primary source to cover animal protein absence in the best level and in a cheap way is fishery products, especially fish. In Turkey, which has rich fishery resources, fish consumption is lower than the EU and World averages. Average fish consumption of World, EU and Turkey are 18,93, 22,86 and 6,3 kg/capita respectively (FAO, 2015). The aim of this study is to determine the factors affecting fish consumption habit of consumers in Tekirdağ province Süleymanpaşa district, evaluation of these factors according to importance levels of them and determining the average fish consumption. In this study, a survey was conducted with 270 consumers in Tekirdag province Suleymanpasa district. Fish consumption habits and factors that are affecting consumers were analyzed with best worst analysis in this study. According to findings of this study, annual fish consumption per capita is determined as 14.69 kg in Tekirdağ. It is found that most important reason for 72.35% of fish consumers who participated in the research is the healthiness of fish, besides 33.33% of participants who do not consume fish suggest that it is difficult to prepare and eat fish. According to BW scores major reason for the fish consumption is healthiness of fish meat, but worst reason for fish consumption is difficulties about prepare to cook. Brand is the main choice criterion on frozen fish products but in generally, fish purchase criterion is the appropriate fish regarding season. Consumers were understand to freshness of fish with respect to outlook of fish.

Keywords: Fish consumption, habit, purchase preferences, best worst analysis

Tekirdağ'da Tüketicilerin Balık Satın Alma Davranışları

Son yıllarda artan dünya nüfusu, insan beslenmesinde önemli bir yeri olan hayvansal protein kaynaklarının yetersizliğine neden olmaktadır. Hayvansal protein açığını en iyi derecede ve ucuz şekilde giderebilecek kaynakların başında su ürünleri, özellikle de balık gelmektedir. Zengin balıkçılık kaynaklarına sahip Türkiye'nin, kişi başına düşen balık tüketiminin Dünya ve AB ortalamasının gerisinde kaldığı görülmektedir. Dünya ortalama balık tüketim miktarı kişi başı 18,93 kg/yıl; AB ortalaması ise 22,86 kg/yıl iken Türkiye'de ortalama balık tüketimi 6,3 kg/yıldır (FAO, 2015). Bu çalışmanın amacı Tekirdağ ili Süleymanpaşa ilçesinde tüketicilerin balık tüketim alışkanlıklarını etkileyen faktörleri belirlemek, bu faktörleri önem seviyelerine göre değerlendirmek ve ortalama balık tüketimini belirlemektir. Çalışmada Tekirdağ ili Süleymanpaşa ilçesinde yaşayan 270 tüketiciye anket uygulaması yapılmıştır. Tüketicilerin balık tüketim alışkanlıkları ve bunları etkileyen faktörler best - worst analizi kullanılarak incelenmiştir. Araştırma bulgularına göre kişi başı balık tüketimi 14,69 kg/yıl olarak tespit edilmiştir. Ankete katılanlardan balık tüketenlerin %72,35'inin balık tüketmedeki en önemli nedeni balığın sağlıklı olması iken balık tüketmeyenlerin %33,33'ünün balık tüketmemelerindeki en önemli neden yeme zorluğu olarak belirlenmiştir. Hesaplanan BW skorlarına göre balık tüketimindeki en önemli neden balığın sağlıklı olması iken en az önemli neden ise pişirme hazırlama kolaylığı olmuştur. Dondurulmuş ürün alırken en çok dikkat edilen özellik ürünün markası olurken, balık satın alırken en çok dikkat edilen özellik balığın mevsm balığı olmasıdır. Tüketiciler balığın tazeliğini anlamak için ise en çok balığın genel görünüşüne dikkat etmektedirler.

Keywords: Balık tüketimi, alışkanlık, satın alma tercihleri, best-worst analizi

Introduction

Increase in world population in recent years has led to the lack of animal protein source having an important role in human nutrition. Primary source to cover animal protein absence in the best level and in a cheap way is fishery products, especially fish. Consumption of fishery products depends on several factors such as economic factors, product presentation, and aquatic product consumption habit. Fishery products are consumed in different amounts and different forms according to the regions. The most important reason for this situation is cultural differences and different consumptions habits between regions. Seafood, especially fish is an important source of protein in many diets around the world. Despite the benefits on the health, fish consumption is not at the desired level in Turkey yet.

In Turkey which has rich fishery resources, fish consumption is lower than the EU and World averages. Average fish consumption of World, EU and Turkey are 18,93, 22,86 and 6,3 kg/capita respectively (FAO, 2015). It's a fact that increasing the fish consumption will be positive impact on future generations.There are many studies in Turkey (Dağıstan et. al (2009), Orhan and Yüksel (2010), Yüksel et. al. (2011), Akbay et. al. (2013), Aydın and Karadurmuş (2013), Olgunoğlu et. al. (2014)) and abroad (Feng et. al. (2009), McManus et. al. (2014)) about fish consumption.

In this study, a survey was conducted with consumers in Tekirdag province Suleymanpasa district. Best – worst analysis is applied to determine the criteria which they find least/most important and which they care least/most. In addition, places that consumers prefer to buy fishes and why they choose these places were analyzed.

Materials and Methods

In this study, the data obtained from consumers living in Tekirdag province Suleymanpasa district is used as the primary data.

According to the sampling formula calculated from a limited population, 270 different households are selected randomly and the survey was conducted face to face (90% confidence interval, 5% error margin and p=q=0,5 has been taken to reach maximum sample size).

In Best-Worst Analysis, a subset of items from a master list is shown to survey respondents and is asked to indicate the best and worst items (or most and least important, or most and least appealing, etc.). Thus, choice frequencies estimate the utilities on the relevant scale.

In this study, the best and the worst (BW) scores were calculated for each property by considering the responses of consumers. The most important (B) and least important (W) selection numbers were counted for each feature and calculated the best – the worst (B-W) scores. The average B-W score was calculated by dividing B-W score by the number of consumers who answered the question. Average score shows that how many times the feature is chosen the most important or the least important

Results

The survey was conducted among 270 consumers in Tekirdag province Suleymanpasa district. Survey findings indicate that 43.70% of consumers are women and 56.30% are men. The ages of consumers are; 10.37% between 18 and 25, 58.89% between 26 and 40, 26.67% is between 41 and 55 and 4.07% is older than 55 years old. 64.07% of consumers are married while 35.93% are single. Consumers' education level percentages of postgraduate, undergraduate, associate degree, high school and elementary school are 21.11%, 41.85%, 8.52%, 21.11% and 7.41%, respectively. Sixty percent of consumers work in public sector and 16.30% in private sector 7.04% are worker, 4.81% are student and 7.77% are unemployed. The average household income percentages of the participants are 34% between 2,001 and 3,500 TL, 27% between 3,501 and 5,000, 22% between 5,001 and 8,000 and 13% between 1,000 and 2,000 TL. Ninety-seven point eighty percent of consumers stated that they consume fish while 2.20% consumers stated that they do not consume fish at all.

Table 1. Fish Consumption of Consumers

	Number	Share (%)
Consume	264	97.80
Not Consume	6	2.20
Total	270	100.00

Table 2. Consumer's Primarily Fish Purchase Places

	Share (%)
Fishmonger	54.51
Peddler	13.40
Fish Market / Auction	11.50
Restaurant	10.27
Supermarket	6.92
Hunting by themselves	3.40

It was determined that 54.51% of consumers prefer primarily fishmonger to purchase fish. As seen in Table 2 the second choice with 13.40% of the consumers is peddler and third choice with 11.50% is fish market / auction.

It is examined that for choosing purchase place for consumers, the first reason is freshness and quality. It is found out that 74.89% of consumers prefer fishmonger for freshness/quality. The other main reasons for preferring fishmonger are trust/knowing seller (9.69%) and cooking/cleaning of fish (4.85%).

Table 3. The Primary Reasons to Prefer Fishmonger for Purchasing Fish

Reasons to Prefer Fishmonger	Share (%)
Freshness / Quality	74.89
Trust / Know Seller	9.69
Cooking / Cleaning	4.85
Diversity	3.52
Habit	2.20
Hygiene	2.20
Cheapness	1.32
Accessibility	0.88

Table 4. The Primary Reasons to Prefer Peddler for Purchasing Fish

Reasons to Prefer Fishmonger	Share (%)
Freshness / Quality	40.00
Accessibility	23.00
Cheapness	16.00
Trust / Know Seller	9.00
Cooking / Cleaning	8.00
Habit	2.00
Hygiene	1.00
Diversity	0.00

For consumers preferring peddler to purchase fish, the first, second, and third reasons are freshness and quality (40.00%), accessibility (23.00%), and cheapness (16.00%) respectively (Table 4).

It is find out that 29.73%, 24.32% and 13.51% of consumers who prefer supermarket regard freshness and quality, accessibility and hygiene respectively (Table 5).

Table 5. The Primary Reasons to Prefer Supermarket for Purchasing Fish

Reasons to Prefer Supermarket	Share (%)
Freshness / Quality	29.73
Accessibility	24.32
Hygiene	13.51
Cheapness	9.46
Cooking / Cleaning	8.11
Diversity	6.76
Habit	4.05
Trust / Know Seller	2.70

Table 6. The Primary Reasons to Prefer Hunting Fish

Reasons to Prefer Hunting	Share (%)
Freshness / Quality	48.48
Habit	42.42
Trust / Know Seller	6.06
Diversity	3.03

Forty two percent of respondents like hunting fish and also 6.06% of respondents think hunted fishes are more reliable. Half of the hunting fish preferred consumers regard freshness and quality at the first side.

It is examined that 66.20% of consumers who prefer fish market or auction for purchase fish regard freshness and quality. Fourteen percent of consumers notice cheapness and 7.04% of consumers choose fish market or auction because their purchased fish is cleaned in market place (Table 7).

Examining the respondents whose preferred to purchase fish from restaurant, it is seen that 36.23% of them consider freshness and quality firstly. Twenty nine percent of respondents choose restaurant for free fish cleaning service and 15.94% of them preferred restaurant for trustworthy (Table 8).

Table 7. The Primary Reasons to Prefer Fish Market or Auction for Purchasing Fish

Reasons to Prefer Fish Market / Auction	Share (%)
Freshness / Quality	66.20
Cheapness	14.08
Cooking / Cleaning	7.04
Trust / Know Seller	4.23
Habit	2.82
Diversity	2.82
Accessibility	1.41
Hygiene	1.41

Table 8. The Primary Reasons to Prefer Restaurant for Purchasing Fish

Reasons to Prefer Restaurant	Share (%)
Freshness / Quality	36.23
Cooking / Cleaning	28.99
Trust / Know Seller	15.94
Accessibility	10.14
Habit	7.25
Diversity	7.25
Hygiene	5.80
Cheapness	1.45

In the survey, consumers were asked for judgments about marine fish and farm fish. Consumers indicated that marine fish is more natural by 91.67% and none of them think that farm fish is natural. Consumers who think that there is no difference between marine fish and farm fish are 1.14%. 6.06% of consumers have no opinion (Table 9).

Consumers indicated that marine fish is more delicious than farm fish are 88.26% and 1.52% of consumers denoted that farm fish is more delicious. The percentage of consumers who specified that there is no difference between the taste of farm fish and marine fish is 2.65%. 3.03% of consumers have no opinion.

Participants that pointed out that farm fish is cheaper than marine fish are 39.77% while 32.95% declared that marine fish is cheaper than the farm fish. Consumers who think that there is no price difference between marine fish and farm fish are 4.17% and 14.02% of consumers have no opinion.

Consumers who say marine fish is more nutritious than farm fish are 69.32% while 1.52% indicated that farm fish is more nutritious. Consumers who say there is no difference are 9.47% while 11.74% has no opinion.

Consumers who say that hygiene of marine fish is better than farm fish are 46.97% while 9.09% say that farm fish is more hygienic. The percentage of consumers who say that they do not care about hygiene are 17.05% while 15.53% has no opinion.

Four questions are asked to the participants for best worst analysis. These are reasons of fish consumption, preferences for buying frozen fish product, preferences for determining the freshness of fish, and preferences while buying fish. Questions that are asked to the consumers and consumers' answers to the questions are organized and shown in the following figures.

According to Figure 1, the healthiness of fish has the highest average BW score with 0.709. The taste of fish is in the second place with 0.213 BW score. The lowest BW score from the fish consumption reasons is easiness of cooking and preparation with -0.411 BW score.

Table 9. Consumer Opinions About Marine Fish and Farm Fish (%)

	Marine Fish	Farm Fish	No Difference	No Idea	Not Answered
Naturality	91.67	0.00	1.14	1.14	6.06
Taste	88.26	1.52	2.65	3.03	4.55
Price	32.95	39.77	4.17	14.02	9.09
Nutritional Value	69.32	1.52	9.47	11.74	7.95
Hygiene	46.97	9.09	17.05	15.53	11.36

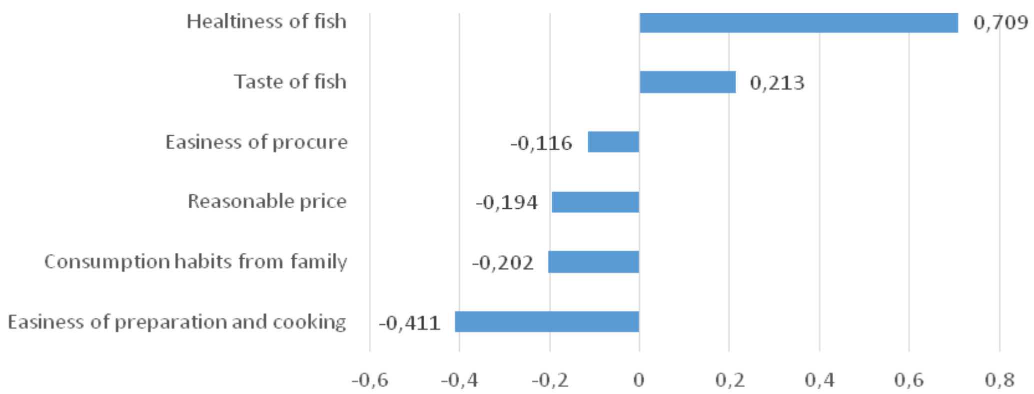

Figure 1. Average BW Scores for Reasons of Fish Consumption

According to Figure 2, brand of the product has the highest average BW score with 0.503. The market is in the second place with 0.046 and expiration date is in the third place with 0.033 BW score. The lowest average BW score belongs to advertisement with -0.576.

According to consumers' fresh fish buying preferences, the most important preference is to be appropriate fish for season with 0.668 BW score (Figure 3). Taste/palate is in the second place with 0.199 BW score. The lowest average BW score belongs to fishbone with -0.391.

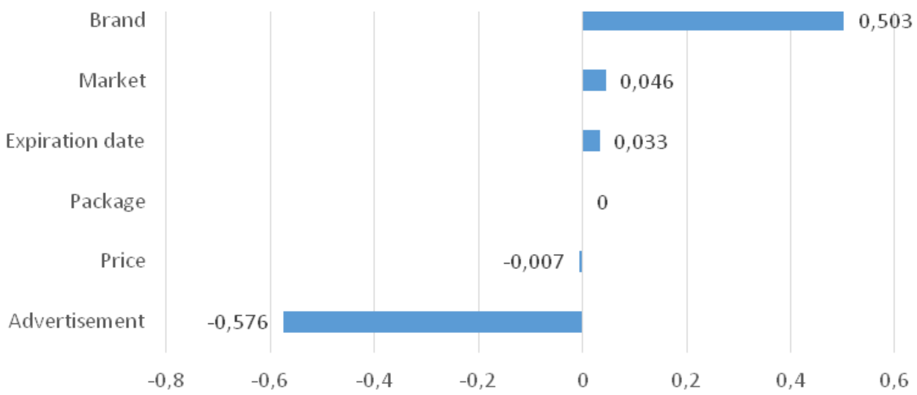

Figure 2. Average BW Scores Calculation for Features Considering When Buying Frozen Fish Product
Hata! Başvuru kaynağı bulunamadı.

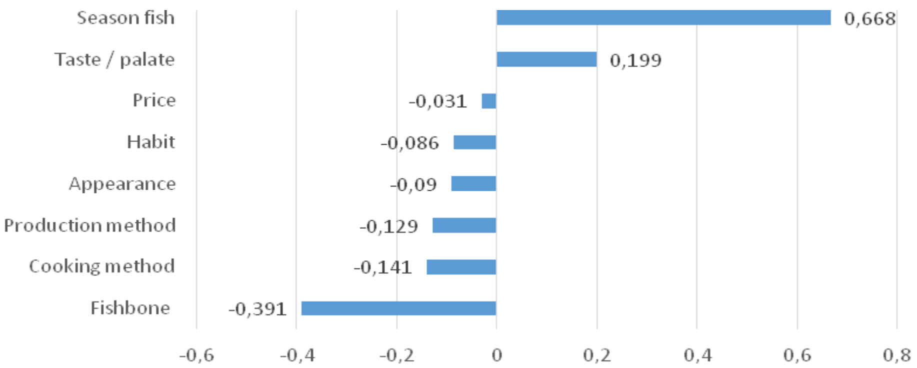

Figure 3. Average BW Scores for Preferences Considering When Buying Fresh Fish

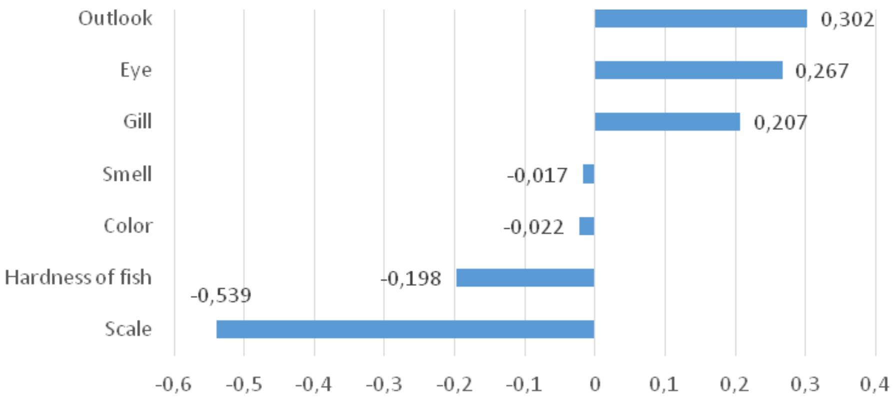

Figure 4: Average BW Scores for Properties of Determining Freshness of Fish (N=232)

According to consumers' preferences, the most, the second and the third important properties for determining freshness of fish are outlook, eye, and gill with 0.302, 0.267 and 0.207 BW score respectively. The least important property is scale with -0.539 BW score (Figure 4).

Conclusion

In this study, consumers' the most/least important preferences are determined in Tekirdag province Suleymanpasa district and suggestions are made to increase fish consumption. In addition to where consumers prefer to purchase fish, why they choose that places and their opinions about sea fish and farm fish were also examined.

According to best worst analysis results, the most and the least important reasons for fish consumption are healthiness of fish and easiness of preparation and cooking respectively. Consumers pay attention to brand of the products most and advertisement about products least when buying frozen fish products. When purchasing fresh fish, the most important property is to be season fish and the least important property is fishbone. Consumers determine the freshness of fish by looking outlook mostly and scale rarely.

In this study, it is determined the places where consumers prefer primarily for purchasing fish. The most preferred three places are fishmonger, peddlers and fish market/auction with 54,51%, 13,40% and 11,50% of consumers respectively. Although rankings are different, the first three reasons for choosing fish purchase places are freshness and quality, trust / know seller, and accessibility.

Due to changing in living conditions and economic conditions, consumers have begun to use more practical and easy – prepare products for saving time. Because of this, fish must be presented to consumers in different ways. Canned and frozen fish products variety is limited in Turkey. These products should be diversified and generalized to increase fish consumption.

Based on the most important reasons given by consumers, a fish market where fresh and qualified fish are sold, necessary food controls are done and is suitable for European Union standards should be establish. There isn't a fish market in Tekirdag province Suleymanpasa district like this.

Consumers should be informed about health benefits of fish, consumption types and cooking methods. Also fishmonger should be informed about sustainability of natural resources, hunting methods, size of hunted fish, and seasonal hunting. Consumers should be easily accessible both locationally and economically.

In addition, aquaculture should be supported, promotions should be given to fish farms. Thus, it is projected that fish consumption will increase in both coastal areas and hinterland.

With the realization of the stated objectives and policies, the improvement of the structure of the fisheries sector, increasing consumers' fish consumption and providing employment in fisheries sector are expected.

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