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Determining the Fisheries Consumption Preferences of Ege University Students

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ARTICLE INFO	ABSTRACT
	Demand for fishery products rich in protein, vitamin, mineral and omega fatty acids is increasing day by day in order to meet the increasing nutritional needs of the world population. Despite being very beneficial fisheries, the amount of consumption in Turkey is very low compared to other countries. For this purpose, as an exemplary study, it has been tried to reveal the fishery consumption habits of students studying at Ege University. Faculties in Ege University have been considered as layers. In the study, a 25-question questionnaire was conducted face-to-face to 381 students selected according to the random sampling method between February and March 2019, and the results were obtained. The survey results obtained from the participants were evaluated using IBM SPSS 25.0 package program. The obtained results were evaluated by Chi-square analysis and Principal Component Analysis. Two group consumers emerged, representing coastal region 54.8% and Terrestrial region 45.2%. It has been determined that the most important reason for fish consumption in preference factors and availability is price. Ege University of students' Consumer profiles; It was found to be different in terms of socio-demographic factors, consumption patterns, attitudes towards health and healthy food. As a result, it was determined that the fishery products were not consumed at the desired level in Ege University students. Accordingly, Ege University students should be made aware of increasing their consumption of fisheries. For this purpose, it is recommended to carry out promotions, advertisements and promotions that prove healthy.

Ege Üniversitesi Öğrencilerinin Su Ürünleri Tüketim Tercihlerinin Belirlenmesi

MAKALE BİLGİSİ	ÖZ
	Dünya nüfusunun günümüzde artan beslenme ihtiyacını karşılamak amacıyla protein, vitamin, mineral ve omega yağ asitleri yönünden zengin su ürünlerine talep gün geçtikçe artmaktadır. Balıkçılık çok faydalı olmasına rağmen Türkiye'deki tüketim miktarı diğer ülkelere göre oldukça düşüktür. Bu amaçla, Örnek bir çalışma olması açısından, Ege Üniversitesinde okuyan öğrencilerin su ürünleri tüketim alışkanlıkları ortaya çıkarılmaya çalışılmıştır. Ege Üniversitesinde bulunan fakülteler katman olarak ele alınmıştır. Çalışma, Şubat-Mart 2019 tarihleri arasında rasgele örnekleme yöntemine göre seçilen 381 öğrenciye 25 soruluk bir anket yüz yüze yapılmış ve sonuçlar elde edilmiştir. Katılımcılardan alınan anket sonuçları IBM SPSS 25.0 kullanılarak değerlendirilmiştir. Elde edilen sonuçlar Ki-kare analizi ve Temel Bileşen Analizi ile değerlendirilmiştir. Anket katılımcılarının %54,8'i kıyısal bölgeden ve %45,2'si karasal bölgeden gelen tüketiciler olarak tespit edilmiştir. Tercih faktörlerinde ve bulunabilirlikte balık tüketimindeki en önemli nedenin fiyat olduğu tespit edilmiştir. Tüketici profillerinin; sosyo-demografik faktörler, tüketim kalıpları, sağlık ve sağlıklı gıdaya yönelik tutumlar açısından farklı olduğu bulunmuştur. Sonuç olarak Ege Üniversitesi öğrencilerinde su ürünlerinim istenilen düzeyde tüketilmediği saptanmıştır. Buna göre Ege Üniversitesi öğrencilerinin su ürünleri tüketimini artırma konusunda bilinçlendirilmesi gerekmektedir. Bu amaçla, Sağlıklı olduğunu kanıtlayan promosyon, reklam ve promosyonların yapılması tavsiye edilir.

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Introduction

Food preferences of consumers, the food itself sensory properties of individual-specific factors (such as do not like certain foods) and environmental, includes a complex interaction between cultural and contextual influences (Furst, et al., 1996; Geslani et al., 2015; Almedia et al., 2015; Cardoso et al. 2016). Food choices increasingly reflect people's personalities and lifestyles more (Kim et al., 2005; Brunsø et al, 2009; Tolon and Elbek, 2016; Thong and Solgaard, 2017), to determine the motive of different food choices that emphasize the role of the owner. To understand the reasons determining the choice of food, it is important to design the promotional campaign successfully and is required for the development of effective food and health policy. Fish is an important source of protein and not much fish is a popular pastime in many places (Pieniak et al., 2010; Mitchel, 2011; Lyerly and Reeve, 2015).

The importance of nutrition and health in the optimal development of public health is well known. The American Heart Association and the organizations and institutions that determine optimal nutrition standards in Turkey, public health suggest at least 300-450 g of fish consumption per week to protect from chronic diseases such as cardiovascular disease (Pieniak et al., 2010; Mitchel, 2011; Cardoso et al., 2016). Those who consumed fish, consumed in food oils, rich in unsaturated fats that are very important for human health. Because ω-3 series fatty Acids in fish play an importance role in biochemical and physiological activities in the human body. Fatty acids in the human body, eyes, brain, testes and placenta are collected. Your eyes are working properly and fully perform the functions of the brain helps. Regulates the concentration of fat in the blood (Foxal et al., 1998; Cardoso et al., 2016). As a result, these fatty acids, heart attack, cardiovascular disease, depression, migraine-type headaches, joint rheumatism, diabetes, high cholesterol and blood pressure, certain allergic types of cancer many diseases in the prevention of significant effects were found (Pieniak et al., 2010; Cardoso et al., 2016).

The health problems occur in those who do not consume fish. Fish is low in saturated fats and high in nutrients, readily available. While meat and fish are the two main sources of protein, the meat is more popular than fish, in spite of general consumer beliefs to the effect that red meat, in particular, may have unhealthy properties. People may be averse to consuming fish because of a Perceived difficulty in buying, preparing and cooking it, the belief that it is expensive or the unpleasant physical properties of some varieties of fish such as the bones and the smell (Leek, et al, 2000).

Fisheries products are an important source of animal protein for human consumption due to diet. Despite the increase in the population, fisheries products consumed in our country is not enough. information about the reasons why the potential to affect the consumer has the choice of food consumption decisions, food and health policy, as well as marketing strategies are important when designing.

In this study is aims to present an assessment of Ege University of students consumer attitudes in general. The aim of this study is to divide the Izmir demand according to consumer perceptions and define a set of clusters, preferably consisting of open socio-demographic and behavioural profiles.

Material and Methods

The measurements used in this study are mainly based on currently valid scales. In order to reveal the motive segments of Izmir that overlook the consumers, variables proven to be associated with food preference motives were used.

It is planned by this study that the public opinion about fish culture in Ege University of students was determined. Therefore, the faculties Ege University of students was accepted as a layer and data were collected by 381 people randomly with a poll selected through face to face interviews.

The questionnaire form includes a group of questions determining the knowledge and attitudes about food purchasing, consumption, and food poisoning and sociodemographic variables.

Reasons for food choice were measured by the application of the food choice questionnaire (Steptoe et al., 1995; Honkanen and Frewer, 2009). The questionnaire prepared for this study has been changed to the fish consumption questionnaire.

The fisheries products questionnaire consists of 17 items that make up 5 motivation factors in the current study: healthy, usability, difficulties, substitution. Participants were asked to rate the statement "the fish I eat on a typical day is important to me" for each item and evaluate its significance on a scale from 1 = not important to 7 = very important.

All data were analysed by the IBM SPSS Statistics for Windows, Version 25.0 statistical program. In order to determine the factors affecting fish consumption, Khi-Square (χ^2), a multidimensional parameter, principal component analysis (PCA) was used as well as percentage distribution (Zar, 2010).

Results and Discussion

It was determined that the rate of those who consumed fish once a week was 31%. In addition, households prefer fish resources when purchasing fish due to their freshness, hygienic conditions and other needs.

When the answers of students coming from coastal and terrestrial regions are examined, statistical differences were determined only according to the income variable. Other variables did not differ significantly between coastal and onshore regions (Table 1). Therefore, all variables are considered as a whole.

Descriptive statistics for socio-demographic data of the participants are given in Table 2. The fit factor in the original questionnaire is also divided into the eligibility and usability dimensions as a result of the different scores provided by the individual respondents. Principal component analysis (PCA) was performed on motivated items. Although some items had low parameter estimates, the results were acceptable, all were significant. The general model can also be accepted considering the sample size (χ^2 = 6747.66; df = 136; p = 0.000; Kaiser-Meyer-Olkin Sampling Adequacy Measurement = 0.832). The predictions are compared with the original Steptoe et al. (1995) paper and they are quite similar. FA results and reliability of factors (Cronbach alphas) are shown in Table 3.

Table 1. Comparison of Coastal and Terrestrial Regions

Variables	Regional Segregation		χ^2	p
	Coastal (54.8%)	Terrestrial (45.2%)		
Gender			0.047	0.939[ns]
Male	46%	48%		
Female	54%	52%		
Age			4.455	0.982[ns]
Under 18	8%	3%		
19-20	34%	44%		
21-22	25%	23%		
23-24	20%	22%		
25 up	13%	9%		
Income ($)			31.217	0.000*
<50	11%	32%		
51-100	34%	19%		
101-150	30%	37%		
151-200	18%	11%		
>201	24%	2%		

[ns] = not significant, * P≤0.05

Table 2. Socio-demographic profile, overall sample (n = 381).

Variables	Frequency	Percent (%)
Sex		
Male	179	47
Female	202	53
Age		
Under 18	23	6
9-20	145	39
21-22	95	25
23-24	72	19
25 up	46	12
Income ($)*		
<50	99	26
51-100	76	20
101-150	126	34
151-200	53	14
>201	27	7
Job		
Part time	149	39
Unemployed	232	61
Fish consumption		
More than twice a week	15	4
Twice a week	110	30
One a week	114	31
Inside of two week	107	29
Less than one month	34	10
Region		
Coastal	210	55
Terrestrial	171	45

* 12.04.2018 (1.00 TL = 4.82 $)

In order to reveal the factors affecting consumers' preferences, varimax rotation principal component factor analysis (Hackett and Foxal, 1999) was performed on the survey data and a four-factor solution with eigenvalues greater than 1 was produced. Examination of a scree plot of eigenvalues confirmed that these four factors taken together accounted for almost 81% of the cumulative variance.

Varimax rotational PCA identified four factors with an eigenvalue greater than 1 (Table 3), accounting for %81.113 of the total variance, and were approximately equally significant. According to the PCA results, the preferences of Ege University students can be evaluated with 4 factors out of 17 items and these factors are related to the attitudes of consumers. These factors include Health (Fish makes a good family meal, Fish is readily available in the shops, Fish is nutritious food, Fish is healthy food, I like to serve fish when I have guests), Usability (Fish provides good value for money, There are lots of different varieties of fish, Fish can be used in many different recipes, Fish is versatile), Difficulties (Fish has an unplesant smell, There is a danger of food poisoning, Fish is difficult to

prepare, Fish is expensive, Fish provides an alternative to red meat Fish goes off quickly), substitution (A prefer chicken), These more uniform Likert agreement statements are likely to be necessary to clearly demonstrate the emergence of key selection factors.

In Turkey, seafood consumption preferences Factors affecting reveal aimed the desired conclusion, According the to the seafood marketing and consumption is still at the Desired level an effect or not, no seafood consumed a part of the well is located has emerged. Working conditions of the region are taken into consideration due to geographical features and economic conditions, and unknown types of seafood are consumed. To raise awareness of the consumers, the quality of aquatic products, feed consumption and economy information about the value must be explained to consumers. Local Authorities and other regional Institutions and Organizations in for their area of interest to the public should be Encouraged seafood products and promotional activities. Consumption in Turkey promoters and encourage the expansion of activities in the market, Recruiters must be required to the increased consumption (Bashimov, 2017; Selvi et al., 2019; Genç et al., 2020).

Table 3. Factor analysis (standardized parameters) and Reliabilities of the motive factors (Chronbach's alpha)

Parameters		Cronbach's alpha	Eigenvalue	% of Variance explained	% Cumulative Variance
Factor I		0.824	7.599	44.699	44.699
Fish makes a good family meal	0.951				
Fish is readily available in the shops	0.939				
Fish is nutritious food	0.648				
Fish is healthy food	0.796				
I like to serve fish when I have guests	0.590				
Factor II		0.750	3.464	20.378	65.077
Fish provides good value for money	0.872				
There are lots of different varieties of fish	0.858				
Fish can be used in many different recipes	0.794				
Fish is versatile	0.616				
Factor III		0.715	1.685	9.909	74.986
Fish has an unpleasant smell	0.865				
There is a danger of food poisoning	0.846				
Fish is difficult to prepare	0.813				
Fish is expensive	0.835				
Fish goes off quickly	0.712				
Factor IV		0.710	1.042	6.127	81.113
A prefer chicken	0.857				
Fish provides an alternative to red meat	0.642				

Economic theory Suggests that the main determinants of changes in food consumption are changes in real consumer income, in the product price, and in the prices of complementary and substitute goods as well as preferences and sociodemographic faktörü (Almedia et al., 2015; Cardoso, 2016; Rahnama and Somogyi, 2020).

As a result of this study, the majority of participants frequently claimed that they consume fish more than once a week. Ege University students' income as certain socio-demographic parameters of fish consumption in particular has emerged as an effective predictor. Today's society and of future generations to increase their fish consumption habits and create healthy is a basic fact. In this case, periodic updating should be supported by aquaculture and consumption of these products should be supported in terms of short and long term benefits (cancer effects, cardiovascular health, diabetes delay, depression, aging, memory loss, inflammation and migraine). for human health. pain prevention) should be explained. Within the education system and value, the importance of seafood in a family environment for children should be told, starting from primary school level students definitions of fishery products should be transferred to the theoretical and practical. In addition, we have resources and sustainable production processes with the implementation of 850 thousand tons of fish produced approximately per year, and in this regard would be possible obtaining healthy food should not be forgotten to may rise from the centre of the problem.

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