AWARENESS, PERCEPTION, ATTITUDE AND EXPECTATIONS OF UNIVERSITY STUDENTS TOWARDS HALAL FOOD[1] [2]

Kafkas University
Economics and Administrative Sciences Faculty
KAUJEASF
Vol. 13, Issue 25, 2022
ISSN: 1309 – 4289
E – ISSN: 2149-9136

Article Submission Date: 11.01.2022 *Accepted Date: 11.05.2022*

Bekir ÖZKAN
Asst. Prof. Dr.
Bursa Technical University
Faculty of Humanities and Social Sciences,
Bursa, Turkey
bekir.ozkan@btu.edu.tr
ORCID ID: 0000-0001-5802-3473

ABSTRACT| The study aims to determine the awareness, perception, attitude and expectations of consumers about halal food. In the study, the survey method is used as a data collecting technique. As a sample collecting technique, snowball sampling, a nonprobability sample collecting procedure, is used. The survey is sent to university students via social media such as Facebook and Instagram, and have been asked to fill it out and share it with their friends. According to results, university students define halal food as; "food that does not contain any substance that is haram", "does not contain pork and its derivatives", "animal slaughtered according to Islamic conditions", "not haram", "great effort, halal income" etc. And, the information source consumers care most about and trust the most regarding halal and healthy food are food experts. The second most trusted source is religiously sensitive people and the third most trusted source is theologists.

Keywords: *Halal, halal food, awareness*
JEL Codes: *M10, M30, M31*

Scope: *Business administration*
Type: *Research*

DOI: 10.36543/kauiibfd.2022.007

Atıfta bulunmak için: Özkan, B. (2022). Awareness, perception, attitude and expectations of university students towards halal food. *KAÜİİBFD,* 13(25), 129-159.

[1] The necessary ethics committee permission was obtained for the study.
[2] This study is derived from Bekir ÖZKAN's doctoral thesis.

ÜNİVERSİTE ÖĞRENCİLERİNİN HELAL GIDAYA YÖNELİK FARKINDALIK, ALGILAMA, TUTUM VE BEKLENTİLERİ

Kafkas Üniversitesi
İktisadi ve İdari Bilimler
Fakültesi
KAÜİİBFD
Cilt, 13, Sayı 25, 2022
ISSN: 1309 – 4289
E – ISSN: 2149-9136

Makale Gönderim Tarihi: 11.01.2022 *Yayına Kabul Tarihi: 11.05.2022*

Bekir ÖZKAN
Dr. Öğr. Üyesi
Bursa Teknik Üniversitesi
İnsan ve Toplum Bilimleri
Fakültesi,
Bursa, Türkiye
bekir.ozkan@btu.edu.tr
ORCID ID: 0000-0001-5802-3473

ÖZ | Araştırmanın ana amacı, tüketicilerin helal gıda konusundaki farkındalıklarının, algılamalarının, tutumlarının ve beklentilerinin ortaya çıkarılmasıdır. Araştırmada veri toplama yöntemlerinden anket kullanılmıştır. Örneklem toplama metodu olarak tesadüfi olmayan örnekleme yöntemlerinden kartopu örnekleme yöntemi kullanılmıştır. Söz konusu anket üniversite öğrencilerine facebook ve instagram gibi sosyal medya mecraları üzerinden gönderilmiş, anketi cevaplamaları ve arkadaşlarına da dağıtmaları istenmiştir. Elde edilen sonuçlara göre, üniversite öğrencileri helal gıdayı; "içeriğinde haram hiçbir madde olmayan", "domuz ve türevlerini içermeyen", "İslami şartlara göre kesilen hayvan", "haram olmayan", "alın teri, helal kazanç" vb. olarak tanımlamaktadırlar. Helal gıda konusunda tüketicilerin en çok önem verdiği ve en çok güvendiği bilgi kaynağı ise, "gıda uzmanları" dır. İkinci olarak en çok güvenilen kaynak ise, "Dinî hassasiyeti olan kişiler" ve üçüncü olarak en çok güvenilen kaynak ise, "ilahiyatçılar" dır.

Anahtar Kelimeler: *Helal, helal gıda, farkındalık*
JEL Kodları*: M10, M30, M31*

Alan: *İşletme*
Türü: *Araştırma*

1. INTRODUCTION

Halal, a word in Quran, means legal or permissible. In English, halal is often defined as permissible food according to the laws of Islam. However, in Arabic, it is defined as everything that is permissible in Islam (Alam & Sayuti, 2011, p. 8). The contrary word of Halal, Haram means the food products which are banned to consume and which require punishment in the event of consuming in an Islamic country (Salman & Siddiqui, 2011, p. 641).

The concept Halal is defined by Codex Alimentarius[3] as food that is permissible by Islamic laws and Halal food should provide the requirements as to " Halal food shouldn't consist of and contain anything that is against the Islamic laws" and " Halal food shouldn't be prepared, processed, transported or stored with any device or facility that is against Islamic laws" and "Halal food shouldn't be in direct contact with inappropriate food while the procedures of preparing, processing, transporting and storing.". Thus halal food is not just about halal ingredients but about monitoring, processing, handling, storing and distribution as well (Majid, Sabir & Ashraf, 2015, p. 49). Halal, by consumers, is defined as clean, safe and healthy food produced according to the laws of Islam and as food that doesn't contain pork or alcohol (Oztürk, Nart & Altunısık, 2015, p. 155, 156).

2. LITERATURE REVIEW

Every individual has the right to buy the product of their wish from any place, at any time and from any brand. Thus, producing and retail businesses aim to respond to the expectations of consumers in the best way possible. To acquire this, businesses will try to create different scenarios and strategies if needed. Thus, besides the fact that halal food is a religious requirement, it is also unavoidable for it to become a retailing factor.

It is known that consumers care about sensitivity about their religion while consuming (Kizgin & Ozkan, 2014, p. 35) and about halal certificated products (Kurtoglu & Cicek, 2013, p. 201). Also, consumers want to obtain their halal products from departmental stores (Kurtoglu & Cicek, 2013, p. 202). Thus, retailing businesses will take heed of this expectation and having and marketing halal certificated products will be for their benefit.

Non-muslim consumers know about the existence of halal food. Living in a society with Muslims and seeing the commercials about halal food helps non-Muslim consumers to understand halal food policies care about food safety and being environment-friendly (Rezai, Mohamed & Shamsudin, 2012, p. 35).

[3] Codex Alimentarius or "Food Code" is a collection of standards, guidelines and codes of practice adopted by the Codex Alimentarius Commission.

Muslim consumers give halal priority while purchasing food products, meat or choosing a restaurant. Also, Muslim consumers state that governments are insensitive about encouraging and controlling religious behaviors when it comes to halal food consumption (Soesilowati, 2010, p. 156).

The Muslim population living in Turkey, in 2010, was approximately 75 million. This count is projected to reach approximately 91 million in 2030. The worldwide Muslim population was 1,6 billion and this count is projected to reach 2,2 billion (Grim & Karim, 2011, p. 11, 13). Riaz and Chaudry (2004) analyze the halal food trade in 2 ways. First is; domestic and foreign trades of halal food. Second is; the importation necessities and interest in halal food in Muslim countries. Thus, not only the domestic halal food trades but the import trades should be manufactured and transported according to the religion of the traded country.

The priority of halal food producers should be to create a perception of credible brands in the eyes of Muslim and non-Muslim consumers. To achieve this, product quality should be increased, there should be a logo for halal certification on the product package and should be Islamic and science-based in the process of production system and all stages of production and marketing. (Ünalan, 2017, p. 110, 111).

The difficulties in trading halal food could be analyzed as below (Torlak, 2012, p. 7):

- Lack of trust
- Certification problems
- Trade and promotion deficiencies

A part of the difficulties about lack of trust can be explained with the experiences in the past with foreign and domestic brands. The execution of actions that affect the reputation and perception in this subject negatively are increasing factors of lack of trust in halal food trade. Even with trades between Muslims, the negative actions in this subject trigger lack of trust and problems of perception. There are still difficulties with halal food trade after the big steps taken in certificating. Subjects such as the credibility and the reputation, the competence of judgment for certification necessities, the healthiness of the tests laboratory analyzes, the sufficiency in supervisions post-certification, public scrutiny and civilian oversight of the issuers are difficulties in certification and post-certification. In trade and promotion, the lack of professionalism and budget is another significant difficulty in halal food trade (Torlak, 2012, p. 7, 8).

For the factors that affect an individual's beliefs, lifestyle and many more behaviors, religion is the predominant factor. People believe behaving according to their religion is a necessity and try to fulfill this necessity the best way they

can. One of the many significant effects religion has on people's lifestyles is on their consumption behaviors. Consumers can evaluate this as both a necessity and a lifestyle. For example, it is a necessity brought about by their religion for Muslims to not consume banned products such as pork and alcohol.

Religion is an important cultural factor to study. Because religion is one of the most universal and emotive social organizations to affect people's attitudes, values and behaviors on both a personal and a social level (Mokhlis, 2009, p. 75). Different religions and beliefs can ban in itself the consumption of certain goods and services. For example, in Islam consuming pork and alcohol is banned and Hindus don't consume beef for their respect to cows. But religion is less effective in the consumption of goods and services that are not directly banned by religious law. In this case, religious values structure a person's emotional experience, cognition and psychological happiness and this affects the consumption choices of the consumer (Alam, Mohd & Hisham, 2011, p. 86).

Islam doesn't approve overconsumption that could be qualified as wastage and luxurious expenses and define the existence of people as to be a servant to Allah. Consumption society plight happiness to people for their consumption but Islam especially plight happiness to people who don't consume luxuriously (Demirezen, 2010, p. 106).

The sectors religion is most effective are education, food and art and culture. The sectors religion is least effective are construction, information and automotive (Bozaci & Guler, 2015, p. 174). But, religious people are divided into two groups while shopping as religionists and less religious people. Less religious people follow fashion (care more about brands, and go to shops with big brands and buy constantly from market leader brands) and are modernist (try a new product once and not stick with a constant brand) as their shopping behaviors. Religionists are less inclined to try new products. In addition to this, less religious people care more about sales and loan usability, product quality, nutritional values, and service quality than religionist people (Essoo & Dibb, 2004, p. 703, 704). Thus, the effect of religious messages on consumers differs according to their religiousness level (Bozaci, 2017, p. 140).

3. METHODOLOGY

The survey method is used in the present study. Said survey is sent to university students via Facebook and Instagram online and have been asked to fill out the survey and share it with their friends. This kind of survey could be named a computer-driven survey. In this survey kind, the participant can fill out the survey by themselves on their computer. One of the biggest advantages of this is that the data is collected directly to the computer so there is no need for data

entrance afterward. The coding and collecting of the data are completed at the same time. The biggest disadvantage is that the participant needs to be computer literate at a certain level (Gegez, 2007, p. 99).

The present study used snowball sampling, a nonprobability sample collecting procedure, as a sample collecting technique. Snowball sampling is a special way of sampling and is used when forming a sampling frame is hard. Firstly, the basic participant group is formed coincidentally. Secondly, with the pilotage or the knowledge of the basic participant group, new groups are reached and the sample volume is enlarged. The sample volume is enlarged by each participant group inviting and adding new similar groups to participate (Nakip & Yaras, 2017, p. 263).

When forming the statements used in the study to evaluate the awareness, perception, attitude and expectations for halal food, we utilized the studies of Unklesbay, Sneed & Toma (1998), Roininen, Lähteenmäki & Tuorila (1999), Röhr et al. (2005), Bonne, Vermeir & Verbeke (2009), Salman & Siddiqui (2011) and Khalek & Ismail (2015). After forming the 30 statements, to remove the possibilities of misunderstandings in the statements, a pilot study is conducted on 30 students. With the directions of 30 students from different university departments and classes, we finalized the statements. Statements are sent to students in 5 point likert scale (1-Strongly Disagree, 2-Disagree, 3-Unsure, 4-Agree, 5-Strongly Agree)

4. FINDINGS

4.1. Demographic Findings

Demographic findings regarding the 1051 students who participated in the study are as follows.

Table 1: Student Gender Distribution

Gender	Frequency	(%)
Male	397	37,8
Female	654	62,2
Total	**1051**	**100,0**

In Table 1, the gender distribution of the students is presented. According to these results, Female students form the majority. 654 of 1051 (62,2%) students are female, 397 of 1051 (37,8%) are male.

Table 2: Student Age Distribution

Age	Frequency	(%)
18	49	4,7
19	142	13,5
20	218	20,7
21	222	21,1
22	175	16,7
23	106	10,1
24	57	5,4
25	28	2,7
26	14	1,3
27	11	1,0
28	4	0,4
29	4	0,4
30 and above	21	2,0
Total	**1051**	**100,0**
Avarage Age	**21,38**	

When the age distribution is analyzed, most participation is with 222 people are formed by 21 years old students. 20 years old students follow it with 218 people. As third, there are 175 22 years old students. Least participation is from ages 28 and 29 and is only 4 people each. There are 11 27 years olds and 14 26 years olds. 21 students are aged 30 years or older.

Table 3: Student Grade

Grades	Frequency	(%)
Associate Degree 1. Grade	120	11,4
Associate Degree 2. Grade	130	12,4
Bachelor Preparation	38	3,6
Bachelor 1. Grade	158	15,0
Bachelor 2. Grade	228	21,7
Bachelor 3. Grade	179	17,0
Bachelor 4. Grade	160	15,2
Bachelor 5. Grade	6	0,6
Bachelor 6. Grade	5	0,5
Master 1. Grade	12	1,1
Master 2. Grade	15	1,4
Total	**1051**	**100,0**

In Table 3, the grade information on the students participating in the study from 116 different universities is presented. According to the results, from 250 students studying in vocational school, 120 students are in 1. grade, 130 students are in 2. grade. 38 students are in graduate school preparation program, 158 are first-year graduate students, 228 are second-year graduate students, 179 are third-year graduate students, 160 are fourth-year graduate students. From the

27 college students, 12 are first-year postgraduate students and 15 are second-year postgraduate students. Least participation is from fifth-year graduate with 5 students and sixth-year graduate with 6 students.

Table 4: Student Monthly Expense Total

Monthly expense total	Frequency	(%)
0-250 Try	131	12,5
251-500 Try	318	30,3
501-750 Try	263	25,0
751-1000 Try	164	15,6
1001-1250 Try	81	7,7
1251-1500 Try	34	3,2
1501-1750 Try	15	1,4
1751-2000 Try	16	1,5
2001 and above Try	29	2,8
Total	**1051**	**100,0**

The monthly expense totals of the students participated in the study are presented in Table 4. According to these results, 318 students have a monthly expense total of 251-500 Try. 263 students have a monthly expense total of 501-750 Try and 164 students have a monthly expense total of 751-1000 Try. 15 students have a monthly expense total of 1501-1750 Try and 16 students have a monthly expense total of 2001 Try or higher. 131 students have a monthly expense total of 0-250 Try.

Table 5: Student Monthly Food Expense Total

Monthly food expense total	Frequency	(%)
0-100 Try	243	23,1
101-200 Try	295	28,1
201-300 Try	225	21,4
301-400 Try	115	10,9
401-500 Try	90	8,6
501-600 Try	32	3,0
601-700 Try	25	2,4
701 and above Try	26	2,5
Total	**1051**	**100,0**

Student monthly food expenses totals are presented in Table 5. According to the data, 295 students have a monthly food expenses total of 101-200 Try. 243 students have a monthly food expenses total of 0-100 Try, 225 students have a monthly food expenses total of 201-300 Try. 25 students have a monthly food

expenses total of 601-700 Try and 26 students have a monthly food expenses total of 701 Try or higher.

4.2. University Student Status of Food Consumption

We asked university students to sort the first 3 criterias they care about while shopping from most important to least. These sortings are analyzed via order degree method. Order degree points are found with multiplicating with 3 for the first criteria, 2 for the second criteria, 1 for the last criteria and totalizing the results. Said data is presented in Table 6.

Table 6: Criterias University Students Care About Regarding Food Consumption

	1[4]	2[4]	3[4]	Point[5]
Expire date	344	189	86	1496
Brand	134	126	128	782
Price	89	110	232	719
Halal (Halal certified, halal product, halal slaughter, compliance with Islam)	152	57	37	607
Quality	77	114	55	514
Content	30	73	67	303
Other (Size, centers preferred by others, certificates etc.)	29	59	95	300
Packaging (Strength, torn or not, open or not, visuality, external appearance)	16	50	87	235
Cleanliness (Hygiene)	24	32	32	168
Healthy	19	43	21	164
Taste, flavor	20	25	31	141
Freshness	20	21	23	125
TSE stamp, certificate	14	29	12	112
Made in Turkey, indigenous	10	18	18	84
Organic (Naturalness)	15	11	12	79
Trustworthiness	11	13	16	75
Is there any pork product (Meat, fat etc.) or not?	19	4	8	73
Production (Production site, type, how it is produced)	6	17	10	62
Producer, seller (Producing country, selling firm and market)	3	10	22	51
Additive agents	1	14	11	42
Date of production	4	10	10	42
Calorie	2	6	20	38
Whether trans-fat	3	6	3	24
Need	5	3	2	23

[4] The points that students pay attention to in food consumption are listed from the most important to the least important.

[5] The students participating in the research were asked to rank the points they paid attention to in food consumption in order of importance, and the answers were scored using the rank grading method.

Advertisement (Promotion)	1	1	8	13
Contains alcohol?	1	3	3	12
Whether gelatin	2	3	-	12
Nutritive value	-	4	2	10

According to these results, the criteria university students care most about is the expiration date. The econd most cared criteria is product brand. The third most cared criteria is the product price. The least cared about criterias are advertisement-promotion, containing alcohol, containing gelatine and nutrition value. The other option in Table 6 is for the total of answers only given once.

Table 7: What The Concept Of Halal Food Means For University Students

The first concepts that come to mind when it comes to halal food	**Frequncy**	**(%)**
Food that does not contain any substance that is haram (inappropriate in our religion)	112	10,6
Religion (produced in accordance with Islamic conditions)	314	29,9
Does not contain pork and its derivatives	95	9,0
Animal slaughtered according to Islamic conditions	61	5,8
Products that can be eaten according to Islamic conditions (in our religion)	164	15,6
Not haram	22	2,1
Which is halal	27	2,6
Made in Turkey	7	,7
Health and reliability	27	2,6
Great effort, halal income	18	1,7
Meat, chicken, animal products	37	3,5
Expressing more than one concept	51	4,9
Other	116	11,0
Total	**1051**	**100,0**

University students are asked to say the first thing that comes to their mind about halal food. The most given response is “applicable to Islamic law” with 314 (29,9%) students. The second most given response is “eatable products according to Islamic laws” with 164 (15,6%) students. In Table 12, we saw that the responses given by 745 (70,9%) students for the first thing that comes to their mind about halal food are religious concepts. 116 students gave responses that are only given once or twice and 51 students gave multiple responses.

Table 8: The Halal Concept Being A Criterion On Food And Beverage

	Frequency	(%)	Cumulative(%)	Avarage	Standart Deviation
No way	59	5,6	5,6	4,2255	1,12104
No	35	3,3	8,9		
I'm not sure	109	10,4	19,3		
Yes	255	24,3	43,6		
Definetely yes	593	56,4	100,0		
Total	**1051**	**100,0**			

We asked the students who participated in the study "Is the halal concept a criterion on food and beverage?". According to Table 8, 56,4% (593) of students answered definitely yes, 24,3% (225) of students answered yes.5,6% (59) answered definitely no, 3,3% (35) answered no and 10,4% (109) answered not sure. average of the answers is 4,2255. Point scoring system is 5 points for definitely yes, 4 for yes, 3 for not sure, 2 for no and 1 for definitely no.

Table 9: Questioning If The Product Is Halal While Shopping

	Frequency	(%)	Cumulative (%)
Depends on the market/sector/company I bought it from	349	33,2	33,2
I don't question if I buy it from a trusted place	339	32,3	65,5
If I get it from where I don't know, I will question it	282	26,8	92,3
I don't think to question, I don't question, I don't pay attention	47	4,5	96,8
In every way I would definitely question	21	2,0	98,8
Other	13	1,2	100,0
Total	**1051**	**100,0**	

In Table 9, the answers to the question "Do you question if the products you purchase are halal while shopping?" are presented. 33,2% (349) of students answered "depends on the shop/sector/company", 32,3% (339) answered "I don't question if i purchased from a place i trust". 26,8% (282) of students answered "I do if i purchase from a place i don't know" 4,5% (47) of students answered "I don't think of questioning, i don't question, i don't pay attention to questioning" and 2,0% (21) of students answered "I definitely question in every circumstance". 1,2% (13) students answered "other".

Table 10: Credible Information Sources About Halal And Healthy Food Products

Knowledge sources	Frequency
Theologians	318
People with religious sensitivities	400
Advertisement-promotion	144
Family and relatives	238
Circle of friends	99
Salespeople	58
Food experts	772
Other	42
Total	**2071**

We asked university students "Which information sources are more important to you about halal and healthy food?", "Which information source do you rely on and do what is necessary?" and presented options. It was stated to them that they could answer with multiple options. 2071 answers in total are given and results are presented in Table 10. According to the results, 772 students answered "experts about food", 400 students answered "people with religious sensitivity", 318 students answered "theologists", 238 students answered "family and relatives", 144 students answered "advertisement-promotion", 99 students answered "friend circles", 58 students answered "salespeople". 42 students answered "other".

Table 11: Student Preferences On Food Types

	More economical		More healthy		Type of nutrition	
	Frequency	**(%)**	**Frequency**	**(%)**	**Frequency**	**(%)**
Fast food	105	10,0	10	1,0	153	14,6
Home cooking	856	81,4	1038	98,8	811	77,2
Prepared foods	90	8,6	3	0,3	87	8,3
Total	**1051**	**100,0**	**1051**	**100,0**	**1051**	**100,0**

In Table 11, the results on which food types university students find healthier and more economical and which type of nutrition university students have are presented. According to these results, the majority of students (81,4%) find homemade food more economical and almost all of the students (98,8%) find homemade food healthier and again the majority (77,2%) have homemade food based diets. 105 (10,0%) students find fast foods more economical and 10 (1,0%) students find fast foods healthier and 153 (14,6%) students have fast food based diets. Least amount of students find prepared foods more economical, healthier and have prepared food based diets.

4.3. Awareness, Perception, Attitude And Expectations University Students Have Regarding Halal Food

Below is the statistics on 30 statements scale that are directed to university students about halal food. As the result of the analysis for the credibility of the 30 statements scale used in the study, Cronbach's Alpha value is 0,896. This value could be accepted as very credible for 30 variables (because of $0,80<\alpha<1,00$).

Table 12: Awareness, Perception, Attitude And Expectations University Students Have Regarding Halal Food

Statements	Avarage	SD	N
If the products we consume contain gelatin (gelatin used in industries such as food, cosmetics, pharmacy and etc. to gel, thicken, capsulize, cover and etc.) they should be used checked in terms of being halal.	4,1912	1,14749	1051
I have knowledge about functions/benefits/harms of some food additives (sweetener, colorant, preserver, and stabilizer).	3,6480	1,08309	
When I buy a product, I check if the statements such as "it does not contain any pork or any other pork additives" are written on it.	4,0875	1,24363	
When I buy a product, I check if the statements such as "No trans-fat" are written on it.	3,6974	1,28426	
When I buy a product, I check if the statements such as "No alcoholic components" are written on it.	3,8021	1,36934	
Halal certified products are healthier.	4,0533	1,21146	
Halal certified products are expensive.	3,0533	1,24862	
I have knowledge about the products forbidden to consume and/or use according to Islam.	4,1532	1,02089	
Halal certified products are reliable.	3,9753	1,16429	
Halal certified products are easy to access.	3,3330	1,13785	
The number of halal products on the market is higher than non-halal products.	2,9039	1,36741	
Halal certified products are delicious.	3,7431	1,08962	
Halal certificate is applicable for only food products.	**2,4139**	1,32771	
Advertisement on halal certificate and halal certified products is sufficient.	**2,1732**	1,23384	
Producers advertise their halal certified products sufficiently.	**2,1998**	1,22126	
I think Muslims are conscious of halal food and behave accordingly.	2,5794	1,29177	

In fact, non-halal food are unhealthy.	3,2255	1,40053
When I go shopping, I prefer halal certified products.	3,8259	1,15928
I can pay more for halal certified products.	3,6908	1,24461
For me it is significant to consume and buy halal certified products.	3,9125	1,16617
I buy halal certified products and recommend them to my family and friends.	3,8763	1,19360
I don't pay attention to the fact that the products I buy are halal certified.	2,5376	1,40654
Even if they are distant, I go to shops that sell halal certified products.	3,3873	1,27294
Authorities should make urgent regulations related to halal food.	4,1675	1,11378
I have concerns on whether the food I eat outside is halal or not.	3,8744	1,20926
Firms should be obliged to get halal certificate for their products.	**4,2797**	1,13211
Halal certified products should be sold in easily accessible places/aisles.	**4,3911**	1,03292
All the products in Turkey must be produced in accordance with halal standards.	**4,2912**	1,16411
Out of two products I always prefer the halal one even if it is more expensive than the non-halal one.	3,9952	1,16496
Trainings/seminars/compulsory – selective courses regarding the halal and healthy food should be organized at universities.	3,7536	1,31915
General Avarage	**3,5739**	

According to Table 12, the general average of the 30 statements designed to determine the awareness, perception, attitude and expectations regarding halal food is 3,5739. In These 30 statements, the statement with the highest average is "Halal certified products should be sold in easily accessible places/aisles" with 4,3911. The second highest average is "All the products made in Turkey must be produced in accordance with halal standards" with 4,2912. The statement with the third highest average is "Firms should be obliged to get halal certificate for their products" with 4,2797.

Based on this, it could be stated that university students care about the necessary actions regarding halal food and have high expectations regarding the matter.

From the responses university students gave to the 30 statements, the 3 statements with the lowest average are as follows. The statement with the lowest average is "Advertisement on halal certificate and halal certified products is sufficient" with 2,1732. The statement with the second lowest average is

"Producers advertise their halal certified products sufficiently" with 2,1998. The third lowest average is with 2,4139 "Halal certificate is applicable for only food products".

According to these results, it could be stated that university students don't think that halal certification doesn't only apply to food products. In addition to that, university students definitely find the advertisements about halal certificated products and advertisements producers make about their halal certificated products in inadequate.

4.4.Factor Analysis Results

We did a factor analysis to identify different aspects of the attitude university students have regarding halal food. Factor analysis is a statistical technique which a researcher uses when he takes interest in exploring, in one data set, which variables create consistent subsets independent from one another. Variables that are connected with each other but are largely independent with the variables from the subsets of other variables are united as factors. It is believed that factors reflect the basic processes that make the correlations between variables (Tabachnick & Fidell, 2015, p. 612). As the result of the factor analysis, KMO test is found 0,947. The Bartlett's test (Significance level=0,001) is equal. These results show that the data set is proper for factor analysis. Obtained factors from the factor analysis and their loads are presented in Table 13 below.

Table 13: Exploratory Factor Analysis Results

	Factors					
	Attitude	**Expectation**	**Perception**	**Social A.[6]**	**Caution**	**Personal A.[7]**
I can pay more for halal certified products.	**0,797**					
Even if they are distant, I go to shops that sell halal certified products.	**0,788**					
For me it is significant to consume and buy halal certified products.	**0,759**					
I buy halal certified products and recommend them to my family and friends.	**0,723**					
When I go shopping, I prefer halal certified products.	**0,716**					

[6] Social Awareness
[7] Personal Awareness

Out of two products I always prefer the halal one even if it is more expensive than the non-halal one.	**0,654**				
Halal certified products should be sold in easily accessible places/aisles.		**0,770**			
All the products in Turkey must be produced in accordance with halal standards.		**0,757**			
Firms should be obliged to get halal certificate for their products.		**0,747**			
Authorities should make urgent regulations related to halal food.		**0,677**			
If the products we consume contain gelatin (gelatin used in industries such as food, cosmetics, pharmacy and etc. to gel, thicken, capsulize, cover and etc.) they should be used checked in terms of being halal.		**0,531**			
Trainings/seminars/compulsory-selective courses regarding the halal and healthy food should be organized at universities.		**0,513**			
Halal certified products are delicious.			**0,685**		
Halal certified products are reliable.			**0,667**		
Halal certified products are healthier.			**0,651**		
In fact, non-halal food are unhealthy.			**0,624**		
Advertisement on halal certificate and halal certified products is sufficient.				**0,912**	
Producers advertise their halal certified products sufficiently.				**0,911**	

I think Muslims are conscious of halal food and behave accordingly.				**0,705**		
When I buy a product, I check if the statements such as "No trans-fat" are written on it.					**0,767**	
When I buy a product, I check if the statements such as "it does not contain any pork or any other pork additives" are written on it.					**0,667**	
When I buy a product, I check if the statements such as "No alcoholic components" are written on it.					**0,664**	
I have knowledge about functions/benefits/harms of some food additives (sweetener, colorant, preserver, and stabilizer).						**0,784**
I have knowledge about the products forbidden to consume and/or use according to Islam.						**0,707**
Eigen value	10,289	2,512	1,538	1,034	0,881	0,832
Explained variance	42,872	10,645	6,410	4,310	3,669	3,466
Cronbach's Alpha	0,934	0,885	0,792	0,814	0,766	*
Extraction Method: Principal Component Analysis.						
Rotation Method: Varimax with Kaiser Normalization.						
***Since the scale consists of two questions, the Cronbach's Alpha value was not calculated.**						
Explained total variance: 71,192						

In the table above, the statements and factor loads regarding, the result of the factor analysis, the 6 factors are presented. These 6 factors are, in order, named attitude, expectation, perception, social awareness, caution, personal awareness. These factors can be simply explained as below.

Attitude: The first factor, attitude consists of 6 statements and explains 42,872% of the total variances. This factor has an eigenvalue of 10,289. All of the statements in the attitude factor are about halal food purchasing behaviors.

Expectation: The second factor, the expectation factor consists of 6 statements and explains 10,645% of the total variances and has an eigenvalue of

2,512. All of the statements in the expectation factor are about the expectations from businesses, individuals, authorities, universities regarding halal food.

Perception: Third of the said factors, perception consists of 4 statements and explains 6,410% of the total variances and has an eigenvalue of 1,538. All of the statements in this factor are about the healthiness, credibility and taste of halal food.

Social Awareness: This factor which is placed in fourth place consists of 3 statements. Social awareness explains 4,310% of the total variances and has an eigenvalue of 1,034. The statements in this factor are about Muslims' approach to halal food and the advertisements about halal food.

Caution: The factor caution consists of 3 statements and explain 3,669% of the total variances and has an eigenvalue of 0,881. All of the statements in this factor are about checking for writings on products that prevent the product to be halal while shopping.

Personal Awareness: The last of the 6 factors, personal awareness consists of 2 statements and explains 3,466% of the total variances. This factor has an eigenvalue of 0,832. The statements in this factor are about knowledge on food additives and products that the consumption/usage of are banned according to Islam.

4.5. Confirmatory Factor Analysis Results

The primary goal of the confirmatory factor analysis (CFA), an extension to explanatory factor analysis (EFA) that analyzes the structure in the base of data, is to determine the correlation between the predefined factor model and the observed data set (Erkorkmaz et al., 2013, p. 211, 212). CFA is an analysis method that provides significant ease in improving measuring models and is used frequently. CFA is usually used in scale development and validity analysis or is aimed to confirm a predetermined construction (Aytac & Ongen, 2012, p. 16). Correlation value results of CFA is presented in Table.14.

Table 14: CFA Correlation Values

χ^2/df	GFI	AGFI	CFI	IFI	RMSEA	SRMR
4,004	0,934	0,914	0,960	0,960	0,053	0,0571

In the CFA correlation values table, χ^2 tests if there is a difference between the original variable matrix and hypothetical matrix. This test analyzes the sign and significance level of the regression coefficients and informs about each piece of the model individually. Thanks to this test, the accuracy of the complete model can be evaluated (Ayyildiz & Cengiz, 2006, p. 77, 78). Degrees of freedom (DF) needs to be known for the calculations that estimate the universe value of a statistic calculated from the samples or to determine the table values.

Degrees of freedom is identified as the freedom for values regarding a variable to vary (Buyukozturk, Cokluk & Koklu, 2015, p. 148). Degrees of freedom is a significant measure in the χ^2 test. The ratio of DF to χ^2 is used as a competence scale in big samples as well (Cokluk, Sekercioglu & Buyukozturk, 2016, p. 268). In AMOS, this value is found with CMIN/DF (Ayyıldız & Cengiz, 2006, p. 78). There is no consensus on an acceptable ratio for this value yet values between 2 and 5 are recommended (Hooper, Coughlan & Mullen, 2008, p. 54).

From the values in the CFA correlation values table, GFI fit index, assuming it explains the data, is a measure to demonstrate if the visual size of variances and covariances from the hypothesized model are competent for explaining the observed variances. If GFI value is near one (1), factor model mostly explains the observed data, so the model is fit. GFI≥0,90 means it is a perfect fit (Ozdamar, 2013, p. 240). AGFI is an adjusted GFI value considering sample changes. In cases where N is high, AGFI is a more representative fit index. AGFI value is between 0 and 1 and values of 0,95 and higher are considered perfect fit, values of 0,90 and above are considered satisfactory fit (Sumer, 2000, p. 60). One of the top incremental fit indexes, comparative fitness index (CFI), compares the covariance matrix independence model made and covariance matrix suggested model made and gives a value of 0 to 1 representing the ratio between the two matrixes (Sumer, 2000, p. 61). If this value is near 1, it is considered a good model fit (Brown, 2006, p. 85). Incremental fit index(IFI), developed by Bollen, is used to analyze the sample size and the degrees of freedom regarding NFI (Normed fit index) (Byrne, 2010, p. 79). IFI value is between 0 and 1 and values near 1 represent a good fit. 0,95 and higher values represent a good fit, 0,90 and higher values represent an acceptable fit (Erkorkmaz et al., 2013, p. 215). The root mean square error of approximation (RMSEA), in the non-central χ^2 distribution, is an index used to estimate population covariances. RMSEA value is between 0 and 1 (Cokluk, Sekercioglu & Buyukozturk, 2016, p. 269). Values of <0,5 represent good fit (Byrne, 2010, p. 80). SRMR is an absolute fit index and a discrepancy statistic. SRMR is a standardized version of root mean square residual (RMR). The perfect fit value for RMR is 0 and higher values represent a bad fit. SRMR values that are >0,1 represent bad fit (Kline, 2016, p. 277, 278). In Table 15, factor loads of confirmatory factor analysis results are represented.

Table 15: Confirmatory Factor Analysis Results

	Factors					
	Attitude	**Expectation**	**Perception**	**Social A.[8]**	**Caution**	**Personal A.[9]**
For me it is significant to consume and buy halal certified products.	**0,931**					
I buy halal certified products and recommend them to my family and friends.	**0,894**					
When I go shopping, I prefer halal certified products.	**0,865**					
I can pay more for halal certified products.	**0,784**					
Even if they are distant, I go to shops that sell halal certified products.	**0,727**					
Firms should be obliged to get halal certificate for their products.		**0,869**				
Halal certified products should be sold in easily accessible places/aisles.		**0,848**				
All the products in Turkey must be produced in accordance with halal standards.		**0,808**				
Authorities should make urgent regulations related to halal food.		**0,768**				
Trainings/seminars/compulsory-selective courses regarding the halal and healthy food should be organized at universities.		**0,662**				
If the products we consume contain gelatin (gelatin used in industries such as food, cosmetics, pharmacy and etc. to gel, thicken, capsulize, cover and etc.) they should be		**0,596**				

[8] Social Awareness
[9] Personal Awareness

used checked in terms of being halal.				
Halal certified products are healthier.	**0,854**			
Halal certified products are reliable.	**0,809**			
Halal certified products are delicious.	**0,749**			
In fact, non-halal food are unhealthy.	**0,466**			
Producers advertise their halal certified products sufficiently.		**0,928**		
Advertisement on halal certificate and halal certified products is sufficient.		**0,916**		
I think Muslims are conscious of halal food and behave accordingly.		**0,512**		
When I buy a product, I check if the statements such as "it does not contain any pork or any other pork additives" are written on it.			**0,791**	
When I buy a product, I check if the statements such as "no alcoholic components" are written on it.			**0,773**	
I have knowledge about the products forbidden to consume and/or use according to Islam.				**0,758**
I have knowledge about functions/benefits/harms of some food additives (sweetener, colorant, preserver, and stabilizer).				**0,434**

As a result of the confirmatory factor analysis, the statement count of 24 subtracted by the factor analysis is subtracted to 22. The statement count in the attitude factor is subtracted from 6 to 5 and the statement count in the caution factor is subtracted from 3 to 2. We used a Manova to determine if, as a result of CFA, factors differ in terms of different variables.

4.6.Research Hypotheses

The hypotheses developed and tested in order to measure awareness, perception, attitude and expectations towards halal food within the scope of the research are as follows.

H1a: Attitudes of university students towards halal food differ according to their gender.

H1b: Expectations of university students for halal food differ according to their gender.

H1c: Perceptions of university students for halal food differ according to their gender.

H1d: Social awareness of university students towards halal food differs according to their gender.

H1e: Caution of university students towards halal food differs according to their gender.

H1f: Personal awareness of university students towards halal food differs according to their gender.

H2a: Attitudes of university students towards halal food differ according to their grade.

H2b: Expectations of university students for halal food differ according to their grade.

H2c: Perceptions of university students for halal food differ according to their grade.

H2d: Social awareness of university students towards halal food differs according to their grade.

H2e: Caution of university students towards halal food differs according to their grade.

H2f: Personal awareness of university students towards halal food differs according to their grade.

H3a: Attitudes of university students towards halal food differ according to their monthly food expenses total.

H3b: Expectations of university students for halal food differ according to their monthly food expenses total.

H3c: Perceptions of university students for halal food differ according to their monthly food expenses total.

H3d: Social awareness of university students towards halal food differs according to their monthly food expenses total.

H3e: Caution of university students towards halal food differs according to their monthly food expenses total.

H3f: Personal awareness of university students towards halal food differs according to their monthly food expenses total.

4.7. MANOVA Results

We used a Manova to see if there is any significant difference in factors attitude, expectation, perception, social awareness, caution and personal awareness in terms of gender, grade, monthly expense total variables. Multivariate Analysis of Variance (MANOVA) is a method developed to test the hypotheses regarding multivariate normal distribution in two or more independent and dependent groups.

4.8. Gender

We used a Manova to see if there is any difference between male and female students regarding the 6 factors. Hotelling's T test results are evaluated as 5% significance level, while using the Manova. Manova results are presented in Table 16.

Table 16: Results of Manova for Gender

Factors	Avarages		F	Significance
	Female	Male	Value	Level
Attitude	3,7841	3,6635	3,208	0,074
Expectation	4,2530	4,0571	11,323	0,001
Perception	3,7970	3,6707	4,307	0,038
Social Awareness	2,2314	2,4593	11,381	0,001
Caution	4,0604	3,7544	17,067	0,001
Personel Awareness	3,8838	3,9282	0,662	0,416
Hotelling's T Testi **F Value=5,751**	**Significance Level=0,001**			

In Table 16, it can be seen that there is a significant difference between male and female students regarding the 6 factors (Hotelling's T Test Significance Level=0,001<0,05). When we analyzed each factor attitude, expectation, perception, social awareness, caution, personal awareness individually; there is a significant difference in all factors except the attitude and personal awareness factors. There is a significant difference between male and female student expectations regarding halal food (Significance Level=0,001). According to this result, female student expectations (avg. 4,2530) are higher than male student expectations (avg. 4,0571).

There is a significant difference between male and female student perceptions as well (Significance Level=0,038). The female mean for perception (3,7970) is higher than the male mean for perception (3,6707).

In the social awareness factor, there is a significant difference between males and females. (Significance Level=0,001). The male mean (2,4593) is higher than the female mean (2,2314).

In the caution factor, there is a significant difference between male and female students (Significance Level=0,001). The caution factor has the greatest difference between the female mean (4,0604) and the male mean (3,7544).

According to these results; H1b, H1c, H1d and H1e hypotheses were accepted, H1a and H1f hypotheses were rejected.

4.9. Grade

We used a Manova to see if there are any differences between students regarding these factors in terms of student grades. First-year students (120), first-year graduate students (158), and students in graduate school preparation program (38) are grouped as first grade (316). Second-year students (130) and second-year graduate students (228) are grouped as second-year (358). Third-year graduate students (179) are grouped as third grade and fourth-year (160), fifth-year (6), and sixth-year (5) graduate students are grouped as fourth grade (171). Postgraduate students aren't taken into consideration because of their count (27). The Manova results for grades are presented in Table 17.

Table 17: Results Of Manova For Grades

Factors	Avarages				F	Significance
	1.[10]	2.[10]	3.[10]	4.[10]	Value	Level
Attitude	3,8544	3,7648	3,6034	3,6211	3,069	0,027
Expectation	4,2231	4,2211	4,1425	4,0595	1,587	0,191
Perception	3,8252	3,8303	3,6606	3,5336	4,988	0,002
Social Awareness	2,3903	2,3212	2,2533	2,2183	1,206	0,306
Caution	3,9810	3,9916	3,8659	3,8684	0,803	0,492
Personel Awareness	3,9114	3,8631	3,9413	3,8830	0,386	0,763
Hotelling's T Testi	**F Value=1,667**		**Significance Level =0,038**			

According to table 17, there are significant differences between first, second, third, fourth grade students regarding the 6 factors (Hotelling's T Test Significance Level =0,038<0,05). When we analyze these factors individually, we can see the greatest differences between grades are regarding the factors attitude (Hotelling's T Test Significance Level=0,027<0,05) and perception (Hotelling's T Test Significance Level=0,002<0,05). We used a Scheffe test to identify the source of differences in factors with significant differences. Scheffe test is a test developed to compare the group means in pairs. It tests according to family-wise error rate and is effective in the comparison of group means using weighted coefficients (Ozdamar, 2015, p. 310).

[10] 1. First grades, 2. Second grades, 3. Third grades, 4. Fourth grades

According to these results, the source of difference in attitude factor couldn't be identified. To identify the source of difference, we used a Gabriel test but again wasn't able to identify the source of difference. The source of difference in the perception factor is from the difference between first grade (avg. 3,8252) and fourth grade (avg. 3,5336) (Significance Level=0,016) and the difference between second grade (avg. 3,8303) and fourth grade (avg. 35336) (Significance Level=0,011).

According to these results; H2a and H2c hypotheses were accepted, H2b, H2d, H2e and H2f hypotheses were rejected.

4.10. Monthly Food Expenses Total

We used a Manova to see if there is any significant difference between university students' monthly food expenses total regarding the said factors. Students are divided into 5 groups according to their monthly food expenses totals. Students with a monthly food expenses total of 0-100 Try (243) are the first group, 101-200 Try (295) are the second group, 201-300 Try (225) are the third group, 301-400 Try (115) are the fourth group. Students with monthly food expenses totals of 401-500 Try, 501-600 Try, 601-700 Try and 701 Try and higher (173) are the fifth group. Manova results for monthly food expenses total are presented in table 18.

Table 18: Results Of Manova For Monthly Food Expenses Total

Factors	**Avarages**					**F**	**Significance**
	1.[11]	**2.[11]**	**3.[11]**	**4.[11]**	**5.[11]**	**Value**	**Level**
Attitude	3,7992	3,7858	3,7573	3,5304	3,6867	1,579	0,178
Expectation	4,2613	4,2718	4,2059	3,9754	4,0058	4,281	0,002
Perception	3,7778	3,7864	3,7900	3,6174	3,6806	1,032	0,389
Social Awareness	2,2606	2,2373	2,3333	2,3188	2,5125	2,055	0,085
Caution	4,0947	4,0424	3,9622	3,7348	3,6850	4,620	0,001
Personel Awareness	3,7737	3,9085	4,0244	3,8826	3,9162	2,552	0,038
Hotelling's T Testi	**F Value=2,264**			**Significance Level =0,001**			

According to table 18, there is a significant difference between university students in monthly food expenses totals (5 groups) regarding the 6 factors (Hotelling's T Test Significance Level=0,001<0,05). When analyzed individually, there are significant differences regarding the factors expectation (Hotelling's T Test Significance Level=0,002<0,05) and personal awareness in

[11] Five groups according to monthly food expenditures

monthly food expenses total (Hotelling's T Test Significance Level=0,038<0,05). We used a Scheffe test to identify the source of difference in factors with significant differences.

According to the results, the source of difference in expectation factor couldn't be identified. We used a Gabriel test which is a multiple comparison test to identify the source of difference in addition to Scheffe. According to the results of the Gabriel test, the source of differences in the expectation factor is between monthly food expenses totals of 0-100 Try (avg. 4,2613) and 301-400 Try (avg. 3,9754) (Significance Level=0,049) and monthly food expenses totals of 0-100 Try (avg. 4,2613) and 401 Try or higher (fifth group) (avg. 4,0058) (Significance Level=0,048). The other differences in the expectation factor are between monthly food expenses totals of 101-200 Try (avg. 4,2718) and 301-400 Try (avg. 3,9754) (Significance Level=0,025) and monthly food expenses totals of 101-200 Try (avg. 4,2718) and 401 Try or higher (fifth group) (avg. 4,0058) (Significance Level=0,022). In the caution factor, the source of the differences is from the differences between monthly food expenses totals of 0-100 Try (avg. 4,0947) and 401 Try or higher (fifth group) (avg. 3,6850) (Significance Level=0,014) and monthly food expenses totals of 101-200 Try (avg. 4,0424) and 401 Try or higher (fifth group) (avg. 3,6850) (Significance Level=0,037). The source of differences in personal awareness factor is from the difference between 0-100 Try (avg. 3,7737) and 201-300 Try (avg. 4,0244) (Significance Level=0,040). According to these results; H3b, H3e and H3f hypotheses were accepted, H3a, H3c and H3d hypotheses were rejected.

5. CONCLUSION

The halal food concept is, with religious sensitivities improving, the importance given to health and with the desire to consume healthy food as a result, a concept of ever-increasing importance. Especially in recent years, as a result of unconscious actions of consumption and increasing opportunities for consumption, there are deficiencies regarding questioning the consumed products. Because it is impossible to know for certain how the products we eat, drink and consume are produced, what substances those products contain, and if there are any problems with the products regarding our religion or health.

Informing especially the new generation in this subject is crucial for the future. The conclusions of the present study which is aiming to identify the perception and attitude of and to develop awareness in university students, an important part of our society, could be used as a guide. University students who participated in the study define halal food as:

- Food that does not contain any substance that is haram (inappropriate in our religion)
- Produced in accordance with Islamic conditions
- Does not contain pork and its derivatives
- Animal slaughtered according to Islamic conditions
- Products that can be eaten according to Islamic conditions (in our religion)
- Not haram
- Which is halal
- Made in Turkey
- Health and reliability
- Doesn't contain alcohol etc.
- Great effort, halal income

When the said definitions are analyzed, we can see most of the definitions are religious.

According to another result, the majority of consumers (approximately 95%) question if the products they purchase are halal while shopping. This is another indicator of the importance given to halal food. In addition to this, the information source consumers care most about and trust the most regarding halal and healthy food are *food experts*. The second most trusted source is *religiously sensitive people* and the third most trusted source is *theologists.* Consumers who are university students find home-made food more economical, healthier and have home-made food based diets. When the rates for the subject are analyzed, almost all university students find home-made food healthier.

Another element developed as a result of the present study is, according to Manova results, there are significant differences between male and female students in expectation, perception, social awareness and caution factors regarding halal food. According to these results, female students have higher expectations than male students have regarding halal food. When we analyze the perception factor, the conclusion is, again, female students have higher means than male students. In the social awareness factor, male students have higher means than female students. According to this result, male students have higher levels of social awareness than female students. The factor caution is the last factor with a significant difference between male and female students and female students have higher means than male students but this difference is the smallest. According to this result, Female students are more sensitive than male students against alcohol consumption and products that contain halal alcohol.

Another variable that we used Manova ad tried to determine if there is any significant difference between students is the grades they study. According to the Manova results, the conclusion is that there are significant differences between students regarding their grades. According to these results, there are significant differences in factors attitude and perception regarding halal food between students grouped as first, second, third and fourth grade. Especially, when the perception factor is analyzed, there are significant differences between the first grade and fourth grade and between second grade and fourth grade regarding the healthiness, taste and credibility of halal food. In this subject, first and second grades have higher means than fourth grade. Thus, first and second grade students find halal food healthier, tastier and safer than fourth grade students and define foods that are not halal as unhealthy. According to this result, studentship life decreases the perception of students regarding halal food. Another variable we tried to determine if there is any significant difference between students is the monthly food expenses totals. We divided into five groups according to their monthly food expenses total and determined that there are significant differences between the groups in the factors expectation, caution and personal awareness. Another factor with significant differences between students in terms of their monthly food expenses totals is caution.

6. CONFLICT OF INTEREST STATEMENT

There is no conflict of interest between the authors. (Single Author)

7. FUNDING ACKNOWLEDGEMENTS

This research received no specific grant from any funding agency.

8. AUTHOR CONTRIBUTIONS

BÖ: Idea;
BÖ: Design;
BÖ: Literature search;
BÖ: Analysis and/or interpretation;
BÖ: Writer.

9. ETHICS COMMITTEE STATEMENT AND INTELLECTUAL PROPERTY COPYRIGHTS

In this study, ethics committee principles were complied and necessary permissions were obtained in accordance with the principle of intellectual property and copyright.

10. REFERENCES

Alam, S. S., Rohani, M. & Hisham, B. (2011). Is Religiosity an important determnant on Muslim consumer behaviour in Malaysia?. *Journal of Islamic Marketing, 2(1),* 83-96.

Alam, S. S. & Sayuti, N. M. (2011). Applying the theory of planned behavior (TPB) in Halal Food Purchasing. *International Journal of Commerce and Management, 21(1),* 8-20.

Aytaç, M. & Öngen, B. (2012). The structure of environmental attidutes: First-order confirmatory factor analysis. *İstatistikçiler Dergisi, 5,* 14-22.

Ayyıldız, H. & Cengiz, E. (2006). A conceptual investigation of structural equation models (SEM) on testing marketing models. *Süleyman Demirel University Journal of The Faculty of Economics and Administrative Sciences, 11(1),* 63-84.

Bonne, K., Vermeir, I. & Verbeke, W. (2009). Impact of Religion on helal meat consumption decision making in Belgium. *Journal of International Food & Agribusiness Marketing, 21,* 5-26.

Bozacı, İ. (2017). An experimental study on the effects of religious messages on consumer perceptions and preference tendency. *Gazi University Journal of Faculty of Economics and Administrative Sciences, 19(1),* 130-142.

Bozacı, İ. & Güler, Y. B. (2015). Investigating the relationship among Religious group attachement and consumer preferences: A Field Research Conducted in the Province of Kirikkale. *International Journal of Science Culture and Sport, Special Issue 3,* 163-176.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research.* Newyork London, The Guilford Press.

Büyüköztürk, Ş., Çokluk, Ö. & Köklü, N. (2015). *Sosyal bilimler için istatistik.* 15. Baskı, Ankara: Pegem Akademi.

Byrne, B. M. (2010). *Structural equation modeling with AMOS basic concepts, applications, and programming.* Second Edition, Newyork London: Routledge Taylor & Francis Group.

Çokluk, Ö., Şekercioğlu, G. & Büyüköztürk, Ş. (2016). *Sosyal bilimler için çok değişkenli istatistik SPSS ve LISREL uygulamaları.* 4. Baskı, Ankara: Pegem Akademi

Demirezen, İ. (2010) Consumer society and religion. *Dinbilimeri Akademik Araştırma Dergisi, 10(3),* 97-109.

Erkorkmaz, Ü., Etikan, İ., Demir, O., Özdamar, K. & Sanisoğlu, S. Y. (2013). Confirmatory factor anlaysis and fit ındices: Review. *Türkiye Klinikleri J Med Sci, 33(1),* 210-223.

Essoo, N. & Dibb, S. (2004). Religious influences on shopping behaviour: An exploratory study. *Journal of Marketing Management, 20,* 683-712.

Gegez, A. E. (2007). *Pazarlama araştırmaları.* 2. Baskı, İstanbul: Beta Basım Yayım Dağıtım A.Ş.

Grim, B. J. & Karim, M. S. (2011). The Future of the Global Muslim Population, Projections for 2010-2030. *Pew Research Center Forum On Religion & Public Life*, January 2011.

Hooper, D., Coughlan, J. & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *The Electronic Journal of Business Research Methods, 6(1),* 53-60.

Khalek, A. A. & Ismail, S. H. S. (2015). Why are we eating halal – Using the theory of planned behavior in predicting halal food consumption among generation Y in Malaysia. *International Journal of Social Science and Humanity, 5(7),* 608-612.

Kızgın, Y. & Özkan, B. (2014). A study on determining the halal food consumption tendencies of the consumers. *Business & Management Studies: An International Journal, 2(1),* 18-37.

Kline, R. B. (2016). *Principles and practice of structural equation modeling.* Fourth Edition, New York London, The Guilford Press.

Kurtoğlu, R. & Çiçek, B. (2013). A research to determine consumers' perceptions attitudes and expectations towards halal products. *Eskişehir Osmangazi University Journal of Economics and Administrative Sciences, 8(3),* 181-205.

Majid, M. B., Sabir, İ. & Ashraf, T. (2015). Consumer purchase ıntention towards halal cosmetics & personal care products in Pakistan. *Global Journal of Research in Business & Management, 1(1),* 47-55.

Mokhlis, S. (2009). Relevancy and measurement of Religiosity in consumer behavior research. *International Business Research, 2(3),* 75-84.

Nakip, M. & Yaraş, E. (2017). *SPSS uygulamalı pazarlamada araştırma teknikleri.* 4. Baskı, Ankara: Seçkin Yayıncılık.

Özdamar, K. (2002). *Paket programlar ile istatistiksel veri analizi 1.* 4. Baskı, Eskişehir: Kaan Kitabevi.

Özdamar, K. (2013). *Paket programlar ile istatistiksel veri analizi 2.* 9. Baskı, Eskişehir: Nisan Kitabevi.

Öztürk, A., Nart, S. & Altunışık, R. (2015). Determinants of halal consumption behavior of consumers': A study with the theory of planned behavior. *International Journal of Islamic Economics and Finance Studies, 1(2),* 141-160.

Rezai, G., Mohamed, Z. & Shamsudin, M. N. (2012). Non-Muslims consumers' understanding of halal principles in Malaysia. *Journal of Islamic Marketing, 3(1),* 35-46.

Riaz, M. N. & Chaudry, M. M. (2004). *Halal food production.* CRC Press.

Roininen, K., Lähteenmäki, L. & Tuorila, H. (1999). Quantification of consumer attitudes to health and hedonic characteristics of foods. *Appetite, 33,* 71-88.

Röhr, A., Lüddecke, K., Drusch, S., Müller, M. J. & Alvensleben, R. V. (2005). Food quality and safety-Consumer perception and public health concern. *Food Control, 16,* 649-655.

Salman, F. & Siddiqui, K. (2011). An exploratory study for measuring consumers awareness and perceptions towards halal food in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business, 3(2),* 639-651.

Soesilowati, E. S. (2010). Business opportunities for halal products in the global market: Muslim consumer behaviour and halal food consumption. *Journal of Indonesian Social Sciences and Humanities, 3,* 151-160.

Sümer, N. (2000). Structural equation modeling: Basic concepts and applications. *Turkish Psychological Articles, 3(6),* 49-74.

Tabachnick, B. G. & Fidell, L. S. (2015). *Çok değişkenli istatistiklerin kullanımı.* 6. Baskı, (Çev. Edit. Mustafa BALOĞLU), Ankara: Nobel Akademik Yayıncılık.

Torlak, Ö. (2012). Halal product marketing potential, problems and suggestions for solutions between the Islamic countries. *Journal of Consumer and Consumption Research, 4(2),* 1-10.

Unklesbay, N., Sneed, J. & Toma, R. (1998). College students' attitudes, practices, and knowledge of food safety. *Journal of Food Protection, 61(9),* 1175-1180.

Ünalan, M. (2017). The marketing mix on halal food products. *Gümüşhane University Journal of Social Sciences Institute, 8(19),* 101-113.