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SEGMENTATION OF FOOD SHOPPERS IN TURKEY: AN APPLICATION OF FOOD-RELATED LIFESTYLE INSTRUMENTS

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Abstract

Market segmentation divides the market into small groups of consumers who share similar characteristics, and the life style segmentation has become one of the ideal criteria to segment the market. In this study, the food-related lifestyle (FRL), was used to segment the food shoppers in İstanbul in order to understand the different market segments and their food consumption behaviour, as FRL is one of the most elaborate food segmentation tools and proven to be cross-culturally suitable and valid. The present study serves as one of the first attempts to employ the FRL instrument to explore food-related lifestyle segments in Turkey. Data was collected using an online survey utilizing a questionaire with variables adapted from the FRL. Cluster analysis was used to segment food shoppers into four FRL groups: Rational consumers (31.4 %) who are very organised in shopping and cooking for food; food focus consumers (25.4%) who pay attention every single aspect of food; careless (24.7) consumers who care less most of the food-related activities and mostly consist of consumers aged between 18-25;and uninvolved (18.5%) are not active in food-related activities. Research findings could serve as a reference for local and international food companies to develop marketing strategies.

Keywords: Segmentation; Food-related life style; Food consumption; Cluster analysis.

1. Introduction

The concept of "life style " has been very popular in marketing research (Brunsø, Scholderer, & Grunert, 2004a; Fang & Lee, 2009;Grunert, 2006). Because lifestyle variables classify consumers into specific life style patterns that reflect people's choice regarding their interests, beliefs as well as how they spend their time and money (Solomon 2006). Life style instrument is widely used for consumer segmentation, and development of promotional strategies(Well, 1974) and product development (Grunert,

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Brunso, & Bisp, 1993) as well. Most of the lifestyle studies use activities, interests and opinions (AIO), which aim to understand the individual in different aspects of life. This type of lifestyle research has been criticized in several aspects(Grunert et al., 2001) as involving hundreds of questions, being too general to explain consumer behaviors in specific areas; having lack of conceptual clarity, theoretical foundation, and cross-cultural validity.

To address these problems with AIO model, Karen & Grunert, (1995) proposed the food-related lifestyle (FRL) instrument. The FRL tool contains five components of life style, which can explain food purchase: way of shopping, quality aspect, cooking method, consumption situation and purchasing motives (Karen & Grunert, 1995). Analysis of food-related lifestyle segments provides insights about who are current and potential food shoppers, and what is the motivation behind food purchase(Nie & Zepeda, 2011). The model was first used extensively in European countries, afterwards it was also utilized in many non-European countries, such as United States, Australia, Republic of China, and Korea (Jang, Kim, & Bonn, 2011; Lobo & Chen, 2012; Nie & Zepeda, 2011; Reid, Brunso, & Grunert, 2005) . And its cross-cultural validity has been tested and was proved to be stable over time(Brunsø, Scholderer, & Grunert, 2004b;Grunert et al., 2011, 2001, 1993).

The model has not been applied in Turkey. The objective of this study is to understand the characteristics of different market segments of food purchasers in Istanbul. In order to understand the motivations for food purchase, the food shoppers classified into distinct segments using the food-related life style instrument. The characteristics of each segmented is analysed and different marketing strategies are proposed for segments. Specifically, this study addressed the following research questions:

Q1: Can food-related lifestyle factors distinguish food shoppers into identifiable consumer groups? What are the characteristics of each lifestyle group?

Q2: Which demographic factors are associated with a particular consumer segments?

Research results are expected to improve understanding of food-related consumer behaviors and play important role in strategic decisions in food industry in Turkey. Research findings could serve as a reference for local and international companies to develop marketing strategies for food- related products, helping them target new market, forsee expected changes in target segments and also adjust their production.

2. Literature Review and Theoretical Framework

2.1. Food-related lifestyle and segmentation

Food-related life style research was first started by the Centre for Research on Consumer Relations in the Food Sector (MAPP), in Denmark in 1995. The main aim of FRL is to characterize consumers by how they employ food and eating to obtain life values (Boer, McCarthy, & Cowan, 2004; Karen & Grunert, 1995). FRL was introduced as a system of cognitive categories, scripts and associative networks relating a set of food-related behaviors to a set of values. As cited by Wycherley et al. (2008), Grunert et al. (1995) state that the FRL is based on the idea that ‘‘consumers perceive a food product to hold value to the extent that its consumption will lead to self-relevant consequences”. As shown in Fig 1, FRL is defined as the intermediate level of hierarchical cognitive system. On the top level is personal value. On the bottom level, product perception and behavior(Grunert, 2006). The bottom–up route is driven by

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external input; the product perception, which is thought to trigger a hierarchical categorization process that finally results in the activation of the abstract conceptual level which is called personal values. The top–down route, on the other hand, is driven by stable individual differences in personal values. (Brunsø et al., 2004a).

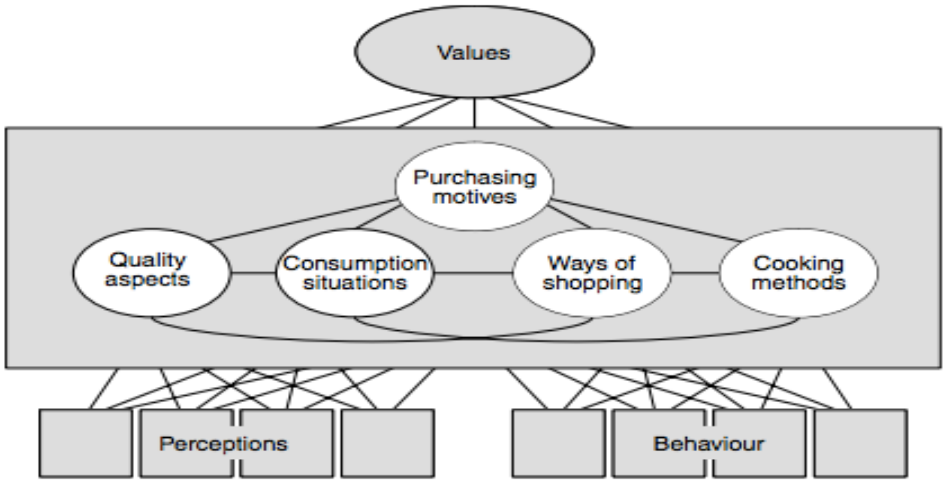

Figure 1. A model of food related life style [Source:(Grunert, 2006)]

The FRL instrument covers five interrelated life domains: ways of shopping, quality aspects for evaluating food products, cooking methods, consumption situations, and purchasing motives(Karen & Grunert, 1995). And consists of 69 Likert-type items, measuring 23 dimensions, each belonging to one of the five major domains of FRL. The five domains are:

- **Ways of Shopping (WS)**: This domain reflects consumers' food shopping behavior, such as: How do individuals shop for food products? Is their decision-making characterized by impulse buying, or by extensive deliberation? Do they read labels and other product information, or do they rely on the advice of experts, like friends or sales personnel? How do they do their shopping- one-stop shopping or specialty food shops? (Brunsø & Grunert, 1998;Grunert et al., 2001). There are six dimensions, including: The importance of product information, attitude toward advertising, joy of shopping, specialty shop, price criteria and shopping list.
- **Cooking Methods (CM)** deals with how the products obtained are transformed into meals and covers questions like: How are the products purchased transformed into meals? How much time is used for preparation? Is preparation characterized by efficiency, or by indulgence? Is it a social activity, or one characterized by family division of labor? To which extent is it planned or spontaneous? (Grunert et al., 2001). The six dimensions of cooking methods includes: Involvement with cooking, looking for new ways, convenience, family involvement, spontaneity and woman's task
- **Quality Aspects (QA)** refers to what consumers demand from food consumption(Fang & Lee, 2009). Dimensions include: Health, price-quality relationship, novelty, organic products, tastiness and freshness.

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- **Consumption Situations (CS)** refers to questions like how meals are spread over the day and how important is eating out (Grunert et al., 2001). Two dimensions are included: snack versus meal and social events.
- **Purchasing Motives (PM)** deals with how consumers' links food-related activities to the value level. What is expected from a meal, and what is the relative importance of these various consequences? How important are social aspects, hedonism, tradition and security? (Grunert et al., 2001). The three dimensions of purchasing motives include: self-fulfillment, security and social relationships.

In brief, the WS, CM and CS domains measure individual difference in the habits regarding to the food purchasing, preparation and consumption. The QA domain measures generalized outline for the evaluation of product attributes. And the PM domain measures individual difference in personal values that consumers attached to food products (Grunert et al., 2011).

The food related life style tool applied in this study has been tested and validated in numerous countries (Buckley, Cowan, McCarthy, & O'Sullivan, 2005; Buitrago-Vera, Escribá-Perez, Baviera-Puig, & Montero-Vicente, 2016; Cowan & Wycherley, 2008; Dimech, Caputo, & Canavari, 2011; Fang & Lee, 2009; Grunert et al., 2001; Kesić, Rajh, & Kesić, 2008; Lobo & Chen, 2012; Nie & Zepeda, 2011; Reid et al., 2005; Ryan et al., 2004) and its cross-cultural reliability and validity has been tested and proved stable over time(Brunsø et al., 2004b;Grunert et al., 2011, 2001, 1993). In some studies, the reduced number of FRL instrument are used. For instamce, Boer et al., (2004) reduce the number of items in the original FRL questionnaire in an Irish study considering limited opportunity to add other measures when applying 69 items of FRL. Another research conducted by Grunert et al., (2011) in China considered the validity of FRL in non-Western environment reduced the number of items for analysis of FRL segments.There are some other researches (Buitrago-Vera et al., 2016; Bernués et al., 2012; Jang, Kim, & Yang, 2009; Jang, Kim, & Bonn, 2011; Wycherley et al., 2008) which also applied the reduced version of FRL instrument. In this study, the number of FRL items were also reduced to find out food-related life style segments.

FRL tools are widely applied for food consumer segments to nationally representative data to get overall understanding of food market. For instance, Grunert et al., (2001), applied the FRL instrument in consumer surveys in Denmark, France, Germany, and the United Kingdom. Six segments were identified: An "uninvolved" consumer who is quite uninterested in most aspects of food, they hardly use food to achieve basic values at all; "Careless" consumer who attaches little importance to food as a means of achieving basic values, but who are often tempted by new products; " conservative" consumers who position food as an important part of their lives. They assume cooking needs to be planned, stability and security is important; "Rational" consumers care about product information and characteristics. Food products are essential for achieving basic values as self-fulfillment, recognition, and security; "Adventurer" consumers assume that cooking is a creative and social process for the whole family. Ryan et al.,(2004) applied FRL to segment Irish food consumers, and six distinct food-related lifestyle segments were identified: hedonistic segment, conservative, extremely uninvolved consumers, enthusiastic consumers, moderate consumer, and adventurous consumers….

Some articles used FRL model to segment food consumers and to understand potential consumer

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groups for specific food products. For instance, Nie & Zepeda, (2011) used modified FRL instrument to segment US food shoppers to analysis organic and local food consumption. Cluster analysis segmented food shoppers into four FRL groups: rational, adventurous, careless, and conservative uninvolved consumers. The segments exhibited significant differences in organic and local food consumption; both the adventurous and rational consumers are active organic and local food buyers where as careless and uninvolved consumers unlikely to become regular organic buyers. Jang, Kim, & Bonn, (2011) also used the reduced FRL tool to segment Generation Y consumers to find out their attitude and purchase intention towards to the green restaurant. Four FRL segments (adventurer, convenience-oriented, health-conscious and uninvolved) were identified and significant differences appeared between the four segments regarding their behavioral intentions toward green restaurants: the "health-conscious consumer" group and the "adventurous consumer" group are proven to be target consumer group who have higher intentions to pay premium in green restaurants. There are other researches applied FRL tool to find out potential consumer for distinct food product, such as convenience food (Buckley et al., 2005), rabbit meat consumption(Buitrago-Vera et al., 2016), new food product (Cullen & Kingston, 2009), fruit and vegetable(Dimech et al., 2011),home-meal consumption (Jang, Kim, & Yang, 2009), and specialty food (Wycherley et al., 2008).

To sum up, the consumer segments clustered by using the FRL instrument have often found the following types of consumer groups: conservative or traditional consumers, who want to keep things as they are; uninvolved and careless consumers, who do not care much about cooking or shopping; adventurous, enthusiastic or moderate consumers to who pay great attention cooking and experimenting with food. Price-quality conciouness in shopping behavior together with willingness to plan shopping and cooking are seen as signs of rationality, which is often linked to conservative consumers(Uimonen, 2011).

3. Research Method

3.1. Sample and data collection

Target population of the study consisted of food shoppers in the age above 18 living in Istanbul. 18 have been determined as the minimum acceptable age since respondents below the age of 18 may not be the decision maker in purchase decisions. A non-probabilistic convenience sampling approach was used in the study.

The master questionnaires were developed in English and have translated to Turkish by means of back- translation. The survey questionnaire used both nominal and ordinal measurement scales and consisted of two parts. The first part was designed to identify consumers' food-related life style by using FRL scale created by Karen & Grunert, (1995). FRL questions measured on a 5-point Likert scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5), with a middle point of 'neither agree nor disagree' (3). The second part includes seven close ended questions about respondent's demographics.The research has been conducted in two-steps, the first step is a pilot test, applied to reduce FRL items and also to restructure the questionnaire in terms of wording, aiming to prevent ambiguity and avoid misunderstanding. The second step is field survey.

In the first step, a pilot test conducted to a convenience sample of 43 respondents using original FRL instrument consist of 69 items, 5-point Likert scale. Principal component factor analysis with

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Varimax rotation was conducted to test the validity of the FRL items. A reliability analysis, using Cronbach's alpha, was undertaken to test the reliability and internal consistency of each of the FRL factors, total 24 items are deleted because they showed a weak factor loading (<0.3)(Mayers, 2013) or loaded two different factor and also due to the poor reliability score. In the second step, an online survey is conducted by using the final form of the questionnaire consist of reduced FRL items (45 items) filled in through the website: **https://docs.google.com**. Questionnaire link distributed through social media,from January 27, 2017 to 15th of March 2017. Total of 513 valid response collected. Multivariate skewness and Kurtosis statistics combined with z-score test are conducted to check whether the normal distributional assumption are met, as the K-means cluster analysis are very sensitive to outliners(Chawla & Gionis, 2013). Considering research sample size, the z-score cut-off point(±3.29) and z-score outliner limitis(0.1%) are decided(Mayers, 2013).Total of 10 sample removed as serious outliners , and 503 sample used to statistical analysis.

3.2. Analysis

Factor analysis was conducted to test the validity of the reduced FRL items. A reliability analysis, was undertaken to test the reliability and internal consistency of each of the FRL. One factor was deleted due to the insignificant factor reliability (<0.6)(Mayers, 2013). Total 11 factors with 42 items were used to FRL segmentation.Cluster analysis is used to segment food consumers according to food-related life style. The Clustering method used to identify food consumer segments was " K-means" an iterative partitioning method .After performing a cluster analysis based on the FRL factor, one-way ANOVA analysis, significant differences ($p < .001$),applied to confirm significance of differences between groups through FRL factors. Cross-tabulation and chi-square test conducted to analyze demographics of each FRL segments

4. Findings

Table 1 shows the items of the modified FRL instrument. According to the results of factor analysis, the FRL instrument can be divided in to 11 factors; "knowing what I buy", "Importance of product information", "Price-quality-food relationship", "Adventure", "Contrary to the traditional habit", "Attitude to food related communication", "Shopping list", "Women's task", "Sharing responsibility", "Social relationship" and "positioning food in my life". These factors used in FRL segmentation analysis. The cluster analysis classified food shoppers into four consumer segments,each segment was profiled and labeled based on segment's primary characteristics obtained from their differences in respect to lifestyle factors and also based on similar food-related clusters identified by earlier studies. Table 1 shows results of final cluster center for four segments(positive results means respondense have interst about related factores in their food-related activities, vise versa, negative means, factor far from the cluster center and not the interested criteria for the segment). The four clusters are named and each segment explained in details in the following section.

Table 1. Results factor analysis and final cluster center of k-means cluster analysis

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Factors	Factor loading	F-ratio	P-value	Cluster1 Rational (34.1%)	Cluster2 Food focus (25.4%)	Cluster3 Careless (24.7%)	Cluster4 Uninvolved (18.5%)
Knowing what I buy *Cronbach's Alpha= .820*		**109.69**	**0.00**	**0.31**	**0.68**	**-0.25**	**-1.12**
I make a point of using natural or organic products.	.826	53.25	0.00	0.14	0.44	-0.64	-0.86
I always buy organically grown food products if I have the opportunity.	.820	43.71	0.00	0.15	0.41	-0.61	-0.74
To me the naturalness of the food that I buy is an important quality.	.710	108.84	0.00	0.39	0.46	-0.82	-1.21
I prefer to buy natural products, i.e. products without preservatives.	.583	80.23	0.00	0.36	0.42	-0.77	-1.00
I like to know what I am buying, so I often ask questions in stores where I shop for food.	.472	60.76	0.00	0.05	0.51	-0.63	-0.94
I like buying food products in specialty stores where I can get expert advice.	.391	25.78	0.00	-0.06	0.39	-0.42	-0.61
Importance of product information *Cronbach's Alpha= .780*		**74.96**	**0.00**	**0.34**	**0.43**	**-0.04**	**-1.11**
I compare labels to select the most nutritious food.	.801	26.76	0.00	0.20	0.29	-0.49	-0.70
I compare product information labels to decide which brand to buy.	.753	34.71	0.00	0.09	0.39	-0.53	-0.75
To me product information is of high importance. I need to know what the product contains.	.690	53.15	0.00	0.20	0.39	-0.52	-1.28
Price- quality-food relationship *Cronbach's Alpha= .794*		**116.74**	**0.00**	**0.16**	**0.67**	**0.03**	**-1.25**
It is important for me to know that I get quality for all my money.	.684	87.67	0.00	0.22	0.40	-0.40	-1.93
I always try to get the best quality for the best price.	.650	52.23	0.00	0.25	0.38	-0.63	-0.97
I compare prices between product variants in order to get the best value for money.	.608	39.87	0.00	0.18	0.37	-0.58	-0.79
I always check prices, even on small items.	.529	14.81	0.00	0.12	0.24	-0.42	-0.31
I find the taste of food products important.	.529	134.78	0.00	0.10	0.35	0.07	-2.56
It is important to me that food products are fresh.	.480	111.48	0.00	0.26	0.35	-0.29	-2.28
Cooking is a task that is best over and done with.	.466	28.94	0.00	-0.03	0.20	-0.06	-1.48
Adventure *Cronbach's Alpha= .848*		**37.02**	**0.00**	**0.34**	**0.39**	**-0.61**	**-0.30**
Recipes and articles on food from other culinary traditions make me experiment in the kitchen.	.826	52.23	0.00	-0.66	0.52	-0.21	0.14
I look for ways to prepare unusual meals.	.808	58.05	0.00	0.35	0.57	-0.20	-0.65
I like to try out new recipes.	.761	59.48	0.00	-0.65	0.57	-0.22	-0.28
I like to try new foods that I have never tasted before.	.726	23.07	0.00	0.31	0.35	-0.01	-0.50
I love trying cooking recipes from foreign countries.	.724	27.26	0.00	-0.56	0.36	-0.08	0.26
Contrary to the traditional habit *Cronbach's Alpha= .697*		**20.93**	**0.00**	**-0.41**	**0.47**	**-0.02**	**0.09**
I eat before I get hungry, which means that I am never hungry at meal times.	.793	6.56	0.00	-0.24	0.11	-0.06	0.54
In our house, nibbling has taken over and replaced set eating hours.	.723	4.29	0.01	-0.16	-0.02	0.06	0.54
I eat whenever I feel the slightest bit hungry.	.715	9.52	0.00	-0.30	0.25	-0.12	0.08
I use a lot of frozen foods in my cooking.	.529	15.33	0.00	-0.42	-0.01	0.33	0.43
Attitude to food-related communication *Cronbach's Alpha= .744*		**26.94**	**0.00**	**-0.48**	**0.48**	**0.16**	**-0.06**
Information from advertising helps me to make better buying decisions.	.844	5.18	0.00	-0.29	0.10	0.14	-0.08
I have more confidence in food products that I have seen advertised than in unadvertised products.	.780	3.92	0.01	-0.17	-0.05	0.24	0.02
I am influenced by what people say about a food product.	.707	4.40	0.01	-0.17	0.15	0.02	-0.39
Shopping list *Cronbach's Alpha= .925*		**86.51**	**0.00**	**0.35**	**0.66**	**-0.79**	**-0.46**
I make a shopping list to guide my food purchases.	.863	43.76	0.00	0.16	0.50	-0.59	-0.24
Before I do a large food shopping, I make a list of everything I need.	.846	36.04	0.00	-0.15	0.47	-0.51	-0.38
Women's task *Cronbach's Alpha= .821*		**104.41**	**0.00**	**-0.82**	**0.80**	**0.19**	**0.05**
I consider the kitchen to be the woman's domain.	.876	4.49	0.00	-0.25	-0.01	0.18	-0.17
It is the woman's responsibility to keep the family healthy by serving a nutritious diet.	.862	3.32	0.02	-0.08	0.10	-0.22	0.10
Sharing responsibility *Cronbach's Alpha= .855*		**33.71**	**0.00**	**0.28**	**0.43**	**-0.54**	**-0.35**

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My family helps with other mealtime chores, such as setting the table and washing up.	.868	63.59	0.00	0.73	0.53	-0.01	-0.62
The other family members always help in the kitchen; for example they peel the potatoes and cut up the vegetables.	.849	56.62	0.00	-0.75	0.50	0.00	-0.35
When I do not feel like cooking, I can get other family members do it.	.820	39.78	0.00	-0.61	0.38	0.14	-0.72
Social relationship *Cronbach's Alpha= .745*		**52.28**	**0.00**	**0.04**	**0.53**	**0.11**	**-0.94**
I find that dining with friends is an important part of my social life.	.723	14.44	0.00	0.10	0.28	-0.17	-0.79
Over a meal one may have a lovely chat with friends.	.691	28.41	0.00	-0.13	0.34	0.13	-1.22
Positioning food in my life *Cronbach's Alpha= .702*		**85.91**	**0.00**	**0.06**	**0.77**	**-0.12**	**-1.00**
A familiar dish gives me a sense of security.	.662	50.53	0.00	0.02	0.31	-0.12	-1.77
Eating is to me a matter of touching, smelling, tasting and seeing, all the senses are involved. It is a very exciting sensation.	.647	53.58	0.00	-0.16	0.40	-0.10	-1.68
Being praised for my cooking adds a lot to my self-esteem.	.616	21.68	0.00	-0.26	0.37	-0.15	-0.76
I dislike everything that might change my eating habits.	.562	15.80	0.00	-0.11	0.29	-0.16	-0.83
Cooking needs to be planned in advance.	.461	35.24	0.00	-0.38	0.46	-0.18	-0.81

Cluster 1: Rational consumers

Cluster one was the "rational consumers", accounted for 31.4%(158) of the sample, they know about what they buy: naturalness of food is important for them and they like to ask questions about product. Not surprisingly, they like to check labels to know the product and differentiate brands. These types of consumers consider price-quality–food relationship in some degree. They check prices, probably, not to find cheapest product but to get best quality for best price because quality is important for them. They like to cook, taste and freshness of food product are important for this segment. And they like adventurers in their eating and cooking,like to try new and different food. Most important characteristic of rational consumer group is that they are very organized, like to make shopping list before go food shopping.

Rational consumers are not very much affected by advertisements and also don't buy food simply based on word-of-mouth referrals. They like to keep the traditional cooking and eating habits, as they do not much use convenience food products and give value to sit-eating rather than snacking. Moreover, these types of food consumers are strongly against the idea that cooking is solely a woman's task. Food is an important part of their life, Self-fulfillment and social relationship are important purchasing motives.

Cluster 2. Food focused

Total of 128 participants (25.4%) are included in this segment. Food focused consumers are interested in all food-related activities. They like to know what they buy: like to shop in specialty stores where they can get expert advice, because they give more value to the naturalness of the product. These types of consumers tend to pay extra attention to product labels before purchases, like to buy advertised food products. And they are also price conscious, always try to get best quality for best price, assume freshness and tase as important quality. Food focused consumers score above average in adventurer, they like to taste various cuisines and are most keen on cooking new and unusual recipes from different culture. And they also like to eat snak food. Food focused consumers share responsibilty in the kitchen.They position food as an important part of their life: enjoy cooking and do not like anything that may change eating habits. They enjoy eating out with friends.This group considers dining with friends or family as an important social activity

Cluster 3. Careless

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Careless consumers comprise 124 people (24.7%) of the sample. These types of consumers are less interested in many aspects of food. They do not know what they buy because they do not like to check product information, they score low on giving importance to product information. In the food-price- quality aspects, consumers in this segment are not interest in price, quality,freshness of food products. They do not like cooking very much,taste is the only important criteria in their eating. They are not interested in novelty, not very adventurous in both cooking and consumption of food. And also not so prefer snacks. They are the spontaneous buyers; they do not like making shopping list. They agree with the idea that cooking is women's task and do not like to share responsibility in the kitchen. Most of the obvious characteristics of this type is their attitude towards food related communication, they buy advertised products, they are effected by peers' opinion in their food choice.These types of consumers do not assume food as an important part of their life, and also give little importance to food as a means of achieving social values.

Cluster 4. Uninvolved

Based on the sample, a total of 93 consumers (18.5%) are in this segment. On the whole, these consumers are not interested in any food-related activities compared to other segments. They show no interest in any kind of food-related information, they do not like to make efforts to know the product they buy; do not see any reason to buy specialty items, do not care whether it's organic or conventional product. It is also expressed with their attitude on importance of product information. These types of consumers will not be influenced by food advertisement, never make shopping list. They are agree the idea that cooking is women's task and do not share responsibility in the kitchen. They do not care much about taste, freshness or the price/quality relationship of food, compared to other consumers. Not surprisingly, this group doesn't want to waste much time in cooking and are the ones most interested in quick and easy cooking methods. Food is not a very important part of their life, this group does not consider dining with friends or family an important social activity. However, they appreciate foods from different countries and different culture in some degree. Thus, these types of food consumers typically purchase instant or frozen foods, and much prefers eat snacks frequently to cover regular meals. In brief, food is not a central element in these consumers' lives.

In order to reveal the demographic characteristics of four food-related lifestyle between segments cross-tabulation and chi-square test are conducted.Table 2 shows the research samples demographic composition and results of chi-square test. Respondents in this study,comprised both male (49.7%) and female (50.3) respondents, most of them between 18 to 35 years old (78.7%) single (55.9) with no children (66.0%) have university degree (45.9%) and salaried workers (45.5%) with an income level of 2000-5000 TL (50.3%). The four consumer segments show significantly different in some demographic factors: in the rational consumers segment, the ratio of female(60.8%) are bigger than other segments, while the male consumers construct bigger portion of careless (56.5%) and uninvolved (54.8%) consumers. In terms of age groups, consumers between ages 18-25(49.5%) fall in to uninvolved segments, while the rational consumers comprise big ratio in older age groups, which is above 26 year old. With respect to marital status, rational and food focused consumers are mostly married consumers, while the percentage of single consumers are bigger among careless (62.9%) and uninveleved(59.1%) food segment. In terms of family composition, rational consumers include more individuals(95) with no

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children compared to other segments. Most of the sample in this study has one or two children, and people with children belong to the rational segment. With respect to educational background, careless food consumer segment has a lower level of education, whereas the rational(53.8%) and food focused(42.2%) consumer segment comprise a high proportion of individuals who holds bachelor degree. In terms of occupation, the salaried government and private sector employee mostly belongs to rational consumer group. Most of the housewives and people who do not work comprise bigger ratio in rational consumers. Among careless consumers segment the number of private sector employees and students are higher. It's also the same in uninvolved segment: the number of students is more than other employment types. With respect to income level, the number of respondents with the salary between 1000-2000 TL are higher in careless consumer segment(25.8%). The rational and food focused consumers comprise more consumers with a salary between 2000-5000TL (53.8%,53.1%).

Table 2. Sample demographic and characteristics of four FRL segments

Consumers	Rational	Food focus	Careless	Uninvolved	Sample[a]
Gender*					
Female	96(60.8[b])	61(47.7)	54(43.5)	42 (45.2)	253(50.3)
Male	62(39.2)	67(52.3)	70 (56.5)	51 (54.8)	250(49.7)
Age					
18-25	57(36.1)	52(40.6)	56(45.2)	46(49.5)	211(41.9)
26- 35	59(37.3)	50(39.1)	42(33.9)	34(36.6)	185(36.8)
36-45	27(17.1)	17(13.3)	12(9.7)	9(9.7)	65(12.9)
45-59	13(8.2)	7(5.5)	11(8.9)	3(3.2)	34(6.8)
60+	2(1.3)	2(1.6)	3(2.4)	1(1.1)	8(1.6)
Marital staus					
Single	81(51.3)	68(53.1)	77(62.9)	55(59.1)	281(55.9)
Married	70(44.3)	58(45.3)	46(37.1)	37(39.8)	211(41.9)
Divorced	7(4.4)	2(1.6)	1(0.8)	1(1.1)	11(2.2)
Number of children					
No children	95(60.1)	86(67.2)	83(66.9)	68(73.1)	332(66.0)
1	25(15.8)	15(11.7)	11(8.9)	12(12.9)	63(12.5)
2	27(17.1)	15(11.7)	16(12.9)	7(7.5)	65(12.9)
3	7(4.4)	9(7.0)	8(6.5)	5(5.4)	29(5.8)
4+	4(2.5)	3(2.3)	6(4.8)	1(1.1)	14(2.8)
Educational background*					
High school and belove	37(23.4)	38(29.7)	42(33.9)	37(39.8)	154(30.6)
College(two year)	13(8.2)	22(17.2)	12(9.7)	16(17.2)	63(12.5)
Bachelor degree	85(53.8)	54(42.2)	61(49.2)	31(33.3)	231(45.9)
Graduate degree	23(14.6)	14(10.9)	9(7.2)	9(9.7)	55(10.8)
Occupation					
Salaried employee (government)	33(20.9)	26(20.3)	18(14.5)	13(14.0)	90(17.9)
Salaried employee (private sector)	44(27.8)	36(28.1)	34(27.4)	25(26.9)	139(27.6)
Business owner	10(6.3)	14(10.9)	12(9.7)	5(5.4)	41(8.2)
Retired	3(1.9)	2(1.6)	5(4.0)	3(3.2)	13(2.6)
Housewife	6(3.8)	7(5.5)	5(4.0)	3(3.2)	21(4.2)
Not working	16(10.1)	10(7.8)	12(9.7)	5(5.9)	43(8.5)
Student	46(29.1)	33(25.8)	38(30.6)	39(41.9)	156(31.0)

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Income level					
<1000TL	12(7.6)	9(7.0)	9(7.3)	10(10.8)	40(8.0)
1000-2000 TL	28(17.7)	27(21.1)	32(25.8)	27(29.0)	114(22.7)
2000-5000 TL	85(53.8)	68(53.1)	57(46.0)	43(46.2)	253(50.3)
5000-10000 TL	26(16.5)	21(16.4)	20(16.1)	9(9.7)	76(15.1)
>10000TL	7(4.4)	3(2.3)	6(4.8)	4(4.3)	20(4.0)

*:The chi-square test shows the variable distribution is different across lifestyle segments, significance level=0.05
a: Sample demographics of the study
b:percentages within cluster

5. Conclusion and Discussions

For exploring food-related lifestyle segments in Turkey, this study modified the FRL instruments to apply it to Turkish sample using adopted 11 factors, K-means cluster analysis conducted. Four food-related lifestyle identified, which include; rational (34.1 %), food focus (25.4%), careless (24.7%) and uninvolved (18.5%). The number of uninvolved consumers is lower compare to other segment.

The food focused and uninvolved consumers segments are the two extreme lifestyle group. Food focused consumers segment score above average in every FRL factors. Consumers in this segment pay attention every single aspect of food. Vise versa, uninvolved food consumers do not show any interest. The uninvolved segment do not care what they buy, never consider any health, quality aspect of food and they are not price conscious at all. They do not pay attention any type of food related communication: advertisement or word-of –mouth (WOM). They do not attach social value to the food consumption. But they consume snack foods and use convenience food product. Most of the countries have consumers with such two extreme interrest towards food. In irish study,Ryan et al., (2004) named the consumer group who is very indiffrent in every aspect of food as extremly uninvolved consumer segment,Buitrago-Vera et al.,(2016) name this type of consumer as unconcerned, and (Fang & Lee, 2009;Grunert et al., 2001) called them as uninvolved. In all study, the uninvolved consumers does not active in all aspects of food-related activities, Snacks have replaced fixed meals to a greater extent among these consumers. In regard to size of population of this segment,the uninvolved consumers segments vary in size from over 20% to over 40% of the population in the litrature. In our study, uninvolved consumers are comprise 18.5% of the population, close to the findings in the litrature . The food focused segment, on the other hand, are the consumers who holds open attitudes towards any kind of food-related activities. This segment also showed in many countries such as ireland(Ryan et al., 2004) named ensuthiastic consumers group, United states(Nie & Zepeda, 2011)Taiwan (Fang & Lee, 2009) named as advanturare because this types of consumers are have strong interst for all aspects of food- from shopping, to cooking and consuming.

Rational consumers are females with high educational background, are novel consumers: they like to check product information and they really know what they buy. They are very organized, for them cooking needs to be planned in advance and like to guide their shopping with making shopping list. Not like food focused consumer group, they keep traditional habit in their food consumption. And assume food consumption as a way to earn sell-fulfillment and social value. This rational segment in this study share similar charactiristics with the rational cosumers in Grunert et al., (2001) and Nie & Zepeda, (2011) study. The moderate consumer segment in Ireland(Ryan et al., 2004) and the astute consumer segment in Taiwan(Fang & Lee, 2009) appere some diffirence in their attitude towards the freshness, healthness of

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food, but in other aspect of food related activities,these two segments are also same with the rational segment in this study.

The careless consumers, resemble with uninvolved consumer group (Grunert et al., 2001), not very active in their food related activities. The most distinct difference between this two group are their attitude towards "food related communication", "Price-quality–food relationship" and "contrary to traditional habit" factors. Careless consumers have positive attitute towards the advertisement and price concious that contrary to uninvolved consumers segment. However, careless consumers group are not as snack food lovers as uninvolved consumers. In other factores, both of the two segment score below the average, just the level are different- uninvolved segment score most below the average.Most of the careless consumers are between age 18-25, and students. That means, they are learning about food, they influenced by advertisements and people opinions. This types of consumer segment did not enjoy cooking, for them any of the food characteristicsare not important, except convenience (Grunert et al., 2001; Nie & Zepeda, 2011).

This research has important implication for researchers and practitioners. In academic aspect, this study contributed to the marketing literature, as this is the first attempt to segment food shopper using food-related lifestyle in Turkey. The similar segments founded in this study further confirmed the cross-cultural validity of FRL instruments. For the local and international food company, FRL segments can give an overview about the food shoppers and help them to select target market, media channel and also give idea in product development. For instance, the careless consumer segment mostly is young single males- potencial food consumers, who open to marketing communications. Food companies should focus on product designs to provide easy-to-use food products and use social media as a communication channel. For rational consumers, food companies should pay attention to the design of product labels since this group of consumers is trusting on product labels. Food focused consumers are very enthusiatic in their food shopping, cooking and eating activities. Most distinct chracteristics of this consumer groups are: they are comprise both men and women consumers, they are young, have high education and high income level, and they try to know what they buy, health concious and also adventures. This segment can be a main target for new food products such as organic and functional foods. And marketer should offer detailed information in their commiunication. Most of the uninvolved consumers are young, betwee 18-25 year old, they should be get involved in food related activities.Public polcy makers should educate them about the importance of food and encourage them to care about food as food is important for individual's health and for social life as well.

This study, of course, did not free from limitation. The sample used in this data is not representative to Turkish population. Future FRL researches recommended conducting survey on nationally representative sample. Research should also be conducted on food-related lifestyles targeting some specific food categories, for instance milk products, fruits &vegetables, organic food, functional food and convenience foods.

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