

THE ROLE OF HEALTH RELATED FACTORS ON CONSUMER ATTITUDES TOWARDS ORGANIC PRODUCTS IN TURKEY

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ABSTRACT

This study attempted to gain knowledge about the role of health-related factors on attitudes towards organic products among Turkish consumers. A self-administered questionnaire was conducted on a representative sample of 347 Turkish adults. The relations between health-related factors and attitudes towards organic food consumption were studied by estimating a structural equation model. Three of the five hypotheses of the research were supported empirically. According to research results, health consciousness, self efficacy and preventive health behaviors affect attitude towards organic products positively.

Keywords: Organic products, health consciousness, preventive health behaviors, self efficacy, health knowledge, structural equation modeling.

TÜRK TÜKETİCİLERİN ORGANİK ÜRÜNLERE KARŞI TUTUMLARINDA SAĞLIKLA İLİŞKİLİ FAKTÖRLERİN ROLÜ ÖZET

Bu çalışmada, Türk tüketicilerin organik ürünlere karşı tutumlarında sağlıkla ilgili faktörlerin rolü hakkında bilgi edinilmeye çalışılmıştır. Bu amaçla 347 kişilik bir örnek üzerinde, bir anket vasıtasıyla uygulama yapılmıştır. Sağlıkla ilgili faktörler ile organik ürünler arasındaki ilişki yapısal eşitlik modeli aracılığıyla incelenmiştir. Beş araştırma hipotezinden üçü istatistiki bakımından anlamlı bulunmuştur. Araştırma sonuçlarına göre, organik ürünlere ilişkin tutumlar üzerinde sağlık

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bilinci, öz etkinlik, koruyucu sağlık davranışlarının pozitif yönde bir etkisi olduğu görülmüştür.

Anahtar sözcükler: organik ürünler, sağlık bilinci, koruyucu sağlık davranışları, öz etki, sağlık bilgisi, yapısal eşitlik modeli.

INTRODUCTION

Organic food market has grown substantially over recent years across the globe and the market for organic food is described as promising due to consumers' increasing awareness of health related issues (Michaelidou and Hassan, 2008; Lockie *et al.*, 2004; Padel and Foster, 2005; Gifford and Bernard, 2006; Honkanen *et al.*, 2006; Baker *et al.*, 2004; Soler *et al.*, 2002; Beharrel and McFie, 1991; Oude Ophuis, 1991; Collins *et al.*, 1992; Swanson and Lewis, 1993; Byrne *et al.*, 1994). Consequently, investigating drivers or motives for organic food consumption has become an important marketing research issue in recent years (Michaelidou and Hassan, 2008; Squires *et al.*, 2001; Baker *et al.*, 2004). Many surveys of consumer attitudes and characteristics have been conducted to identify the reasons for this increased trend (Magkos *et al.*, 2006; Thompson, 1998). Several reasons have been proposed within the literature for this movement towards organic products (Michaelidou and Hassan, 2008). The preference for organic food has been associated with multiple factors (Magkos *et al.*, 2006). Many people buy organic food mainly due to their increased concern towards personal health (Özçelik and Uçar, 2008; Michaelidou and Hassan, 2008; Tregear *et al.*, 1994; Wandel and Bugge, 1997; Grankvist and Biel, 2001; Magnusson *et al.*, 2001, 2003; Lockie *et al.*, 2002). Consumers perceive organic products as a healthier alternative to conventional foods in that they contain more nutrients which enhance personal well-being (Michaelidou and Hassan, 2008; Tregear *et al.*, 1994; Magnusson *et al.*, 2001; Baker *et al.*, 2004; Lockie *et al.*, 2004; Lea and Worsley, 2005; Padel and Foster, 2005; Williams and Hammit, 2001). Organic products are also considered safer, better in taste and more enjoyable than conventional products (Schifferstein and Oude Ophuis, 1998; Padel and Foster, 2005; Roddy *et al.*, 1996; Zanolli and Naspetti, 2002; Fotopoulos *et al.*, 2003; Baker *et al.*, 2004). Previous studies indicate health to be the predominant motive for purchasing organic food and shaping attitude (Schifferstein and Oude Ophuis, 1998). The quality or safety of conventional food products; environmental considerations and animal welfare and personal values have also been found to motivate the purchase of organic products (Williams and Hammit, 2001; Makatouni, 2002; Baker *et al.*, 2004;

Gifford and Bernard, 2006; Sparks and Shepherd, 1992; Grunert and Juhl, 1995; Schifferstein and Oude Ophuis, 1998; Laroche *et al.*, 2001; Vindigni *et al.*, 2002; Lockie *et al.*, 2004; Magnusson *et al.*, 2003; Dreezens *et al.*, 2005; Lea and Worsley, 2005; Michaelidou and Hassan, 2008).

There are also some research studies that has focused on examining the effects of motives, beliefs and values on attitudes towards organic products, purchase intentions and/or purchase frequency but results of these studies are reporting mixed results (e.g. Magnusson *et al.*, 2003, 2001; Padel and Foster, 2005; Honkanen *et al.*, 2006). For instance, Magnusson *et al.* (2003) in comparison to environmental motives, found health to be the stronger predictor of attitude and purchase intention towards organic foods. In contrast, Honkanen *et al.* (2006) found that environmental and animal motives have a strong influence on attitude. Tarkiainen and Sundqvist (2005) also refute health as a predictor of attitude towards organic foods although previous studies indicate health to be the predominant motive for purchasing organic food and shaping attitude (Schifferstein and Oude Ophuis, 1998). Further, Baker *et al.* (2004) found discrepancies in the motives explaining attitude towards organic foods between UK and German consumers (Michaelidou and Hassan, 2008). In addition to these conflicting findings, other specific motives such as health knowledge, self efficacy, preventive health behaviors and their role as predictors of attitude and intention has not been explored in the context of organic purchases.

These gaps in the literature highlight that our understanding of the role of motives that underlie attitude towards organic products is still underdeveloped (Michaelidou and Hassan, 2008; Newsom *et al.*, 2005). This study contributes to understanding the motives behind the purchase of organic products by clarifying the roles of health knowledge, health consciousness, self efficacy and preventive health behaviors in predicting attitude. In particular, this study focuses on health consciousness in an attempt to clarify its value in predicting attitude towards organic products, given the conflicting findings reported in the literature (e.g. Magnusson *et al.*, 2003; Tarkiainen and Sundqvist, 2005). Concurrently, it is attempted to clarify the role of health knowledge, self efficacy and preventive health behaviors in shaping attitude, which have been omitted in the context of organic food purchase. Therefore, in this study health knowledge, health consciousness, self efficacy and preventive health

behaviors are modeled simultaneously together with an attitude relationship.

LITERATURE REVIEW

Organic farming and organic food

Organic farming is a potential way to lower input costs, decrease reliance on nonrenewable resources, attain high-value markets and premium prices, and enhance farm income. Organic farming systems exclude the use of synthetic (man-made) chemicals in crop production and prohibit the use of antibiotics and hormones in livestock production. Organic agriculture is defined as an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony (Beaudreault, 2009).

Organic agriculture is produced with an objective to produce healthy and quality foods without using synthetic chemical products (Gracia and Magistris, 2007). In organic farming, each stage of the process, from production to consumption, is supervised and certified. The aim of organic farming is to provide the maximum level of protection for the environment, plants, animals and human health without polluting the soil and water resources or the quality of air (Özçelik and Uçar, 2008). Thus, organic agriculture not only preserves the environment but it also improves public health, bringing significant benefits both to the economy as well as to the social cohesion of rural areas (Gracia and Magistris, 2007).

In December 2000, the National Organic Standards Board of the U.S. Department of Agriculture (USDA) established a national standard for the term "organic." Organic food, defined by how it cannot be made rather than how it can be made, must be produced without the use of sewer-sludge fertilizers, most synthetic fertilizers and pesticides, genetic engineering (biotechnology), growth hormones, irradiation and antibiotics. Organic products are obtained by processes friendly to the environment, by cultivation techniques that consider both the attributes of the final product and the production methods (Chinnici *et al.*, 2002). Thus, increasing demand for organic food is expected to continue in the future (Tsakiridou *et al.*, 2008).

The physical distribution of organic products

Organic products may be purchased from many different retail outlets. These range from permanent physical retail outlets such as supermarkets and health food shops, to temporary retail outlets such as a weekend market. Virtual markets such as home delivery may include Internet-based purchases. Hence, great diversity exists in the distribution of organic products (Pearson and Henryks, 2008).

All stages in the supply chain must ensure that the product passes along them without artificial chemicals being used in order to maintain the certified organic status. For a short supply chain, maintaining the organic status is relatively easy to ensure, such as the producer selling directly to the customer at a weekend market. However, a longer supply chain, such as a producer-wholesaler-manufacturer-retailer-customer, is more difficult. Hence, it is not surprising that the longer supply chain has only recently evolved in the industry (Pearson and Henryks, 2008).

Reasons for buying organic food

A review of the literature on organic food consumption shows that several attempts have been made to examine consumers' perception of organic food, factors that have facilitated or prevented the organic food choice, consumers' attitudes, as well as reasons for purchase/non-purchase (Essoussi and Zahaf, 2008).

There are number of reasons that consumer choose to purchase organic food products, as well as some barriers. Reasons of buying could be grouped according to general and commodity-specific concerns (Yiridoe *et al.*, 2005). Examples of general concern included food safety, human health, environmental impact, whereas commodity attributes included taste, freshness and packaging (Yiridoe *et al.*, 2005). Surveys have identified additional positive attributes that consumer associate with organic food products which include improved taste (Davies *et al.*, 1995), being better for environment (Lea and Worsley, 2005), and being better for wildlife (Goldman and Clancy, 1991). The order, or priority, for these reasons varies. For instance, health is very important to customers who purchase organic products because of their own medical problems. On a broader level, other individuals may purchase organic food as a way of enabling them to support a food production system that is more sustainable in its impact on the natural environment (Pearson and Henryks, 2008).

Conversely, the main reasons that prevent consumers from buying organic food included expensiveness, limited availability, unsatisfactory quality, satisfaction

with current purchases, lack of trust, limited choice, lack of perceived value and lack of misunderstanding of organic ways of production (Essoussi and Zahaf, 2008; Fotopoulos and Krystallis, 2002; Wier and Calverly, 2002; Larue *et al.*, 2004; Verdurme *et al.*, 2002; Worner and Meier-Ploeger, 1999). Overall, the most important reason for purchasing and consuming organic food appears to be health concerns (Hutchins and Greenhalgh, 1997; Squires *et al.*, 2001), whereas research conducted on consumers' environmental concerns as a reason for consuming organic food are mixed (Essoussi and Zahaf, 2008; Kristensen and Grunert, 1991).

Consumer attitudes to organic food have also been explored in a small number of qualitative studies (Torjusen *et al.*, 2001). Consumers do not always buy sustainable products as consequences of environmental concern or to benefit the community or due to personal beliefs but mainly to give priority to health, to be part of the social group, to distinguish from others and to accomplish the need to try out new technologies (Vermeir and Verbeke, 2004).

The Organic consumer

Research on consumer preferences and demand for organics is increasingly attracting academic interest (Tsakiridou *et al.*, 2008). In the majority of studies, many consumers denote that they have a preference for and an interest in organically produced foods (Misra *et al.*, 1991; Wandel and Bugge, 1997; Wilkins and Hillers, 1994). Although the concept of "organic food" seems to be well known to many consumers (Roddy *et al.*, 1996; Von Alvensleben, 1998), the proportion of consumers who purchase organic foods on a regular basis is low (Grunert, 1993; Wandel and Bugge, 1997; Roddy *et al.*, 1996; Fotopoulos and Krystallis, 2002).

In relation to growth potential of consumer demand and its limits, many surveys have identified and ranked motivations for buying organic food and have generally painted a positive picture of robust demand, confirming the growth witnessed in the value of the retail market throughout the 1990s and into the twenty-first century (Padel and Foster, 2005). However, the observable slow down in market growth may indicate a discrepancy between an evident willingness to buy, captured by these surveys, and actual purchasing behaviour (Makatouni, 2002). Researchers also talk about differences between the perceived organic consumer and the actual organic consumer (Padel and Foster, 2005). On this basis, it is necessary to be cautious of the very positive conclusions that some studies reach.

When the customer profile of the outlets for organic food is examined, it is registered that they consist of people with higher education and income level, most in their middle ages or above (Özçelik and Uçar, 2008; Kaya, 2003). However, the consumption of organic food is comparatively low (Kihlberg and Risvik, 2007). The main reasons for the comparatively low consumption of

organic products are the income levels of consumers, wrong or inadequate knowledge, too high prices of organic products and the lack of consumer consciousness and marketing infrastructure (Davies *et al.*, 1995; Roddy *et al.*, 1996; Kaya, 2003; Shepherd *et al.*, 2005; Kihlberg and Risvik, 2007). The high prices of organic products mainly arise from the expensive production processes. In a piece of research, one-third of the participants stated that they would buy organic foods if their prices were lower (Davies *et al.*, 1995). Consumers who have knowledge of organic food, are aware of its benefits and think that organic food is healthier and tend to buy organic food more frequently (Özçelik and Uçar, 2008; Gil *et al.*, 2000).

The organic food market in Turkey

In Turkey organic farming activities started in 1985 by exporting to European importers. Organic production areas are especially in Aegean Region (39%) followed by Black Sea region (18%), Mediterranean region (13%), Middle Anatolia region (13%), East Anatolia region (13%), Marmara region (3%) and South East Anatolia region (1%).

In Turkish organic market, food and cosmetic products are heavily produced. The size of domestic market is five million dollars and 65% of the market consists of food products. The most popular organic food products are dried fruits and grains. Consumption of organic legumes is consisting almost half of the total organic products. Organic food consumption statistics of domestic market are shown in Table 1. Recently, products like tea, hazelnut, marmalade and tomato paste are also supplied to the market.

Table 1: Organic Food Consumption in Turkey

Years	Quantity (ton)
2002	4.990,31
2003	15.274,85
2004	12.082,22
2005	29.454,17
2006	66.265,99

Organic products are especially sold in super and hypermarkets (65%) and in specialized organic food shops (35%) in Turkey. Although the share of organic products is increasing in the market in recent years it is only 1-2% of the total market.

RESEARCH OBJECTIVES

The healthcare process has changed irrevocably in recent years with the emergence of the “healthcare consumer” (Reeder, 1972) who, rather than being passive, has taken a more active role in his/her own healthcare (Gould, 1988). This paper examines self efficacy-exercising and diet, health knowledge, health consciousness, self efficacy and preventive health behaviors as health-related factors and their role on attitudes towards organic products among Turkish consumers and identifies which factors affect consumers' attitudes towards organics.

The ultimate goal was to better understand the structural relations between consumers' health-related motivations and attitudes towards organic food products so that organic producers could formulate proposals for better promotion and marketing of organic products and develop more effective strategic marketing planning. Besides organic producers, researchers who are interested in organic consumption will also benefit from the study. Some of the health-related factors examined in this study have been omitted in previous organic consumption studies. Understanding the role of these new factors on consumer attitudes are also thought to provide insights to researchers in understanding consumer behavior.

RESEARCH HYPOTHESIS

Individual-level trait factors often play a critical role in explaining consumer behavior beyond traditional demographic factors (Dutta-Bergman, 2003; Dutta-Bergman and Wells 2002). Especially in the context of multiple health behaviors such as healthy eating, exercising and abstaining from alcohol, self-efficacy has emerged to be an important determinant of behavior. Self-efficacy is strongly correlated with health-oriented lifestyle decisions such as food consumption, dietary behavior and other health outcomes (Dutta and Youn 1999; Moorman and Matulich 1993; Swenson and Wells 1995). In the context of this study it is believed that attitudes towards organic products may be formed as a result of health-oriented lifestyle such as exercising and diet. Therefore, it is hypothesized:

H1: Self-efficacy-exercising and diet will positively affect attitude towards organic products.

Health knowledge refers to the individual's storehouse of information about preventive healthcare behaviors (Jayanti and Burns, 1998).

Johnson and Johnson (1985) showed that health knowledge influences choice of healthy foods and nutritious eating, whereas Boeckner, Kochn and Rockwell (1990) found a positive correlation between health knowledge and improved dietary habits. It is generally believed that knowledge facilitates information search, and highly knowledgeable consumers acquire and retain more information compared the people with less knowledge (Jayanti and Burns, 1998). In this study it is predicted that health knowledge will be an important predictor of attitude towards organic products, and hypothesized that:

H2: Health knowledge will positively affect attitude towards organic products.

Health consciousness is an indicator of the consumer's intrinsic motivation to maintain good health, reflecting enduring involvement in health (Dutta-Bergman, 2003; MacInnis et al., 1991). Health consciousness refers to the degree to which health concerns are integrated into a person's daily activities (Jayanti and Burns, 1998). Health consciousness also assesses the readiness to undertake health actions (Michaelidou and Hassan, 2008; Becker et al., 1977). Health-conscious consumers are aware and concerned about their state of well-being and are motivated to improve and/or maintain their health and quality of life, as well as preventing ill health by engaging in healthy behaviors and being self-conscious regarding health (Gould, 1988; Plank and Gould, 1990; Kraft and Goodell, 1993; Newsom et al., 2005). Such individuals tend to be aware of, and involved with, nutrition and physical fitness (Kraft and Goodell, 1993). Previous research has identified interest in health as a primary motive for the purchase of organic food (Grankvist and Biel, 2001; Lockie et al., 2002). In addition, health consciousness has been found to predict attitude, intention and purchase of organic foods (Magnusson *et al.*, 2003, 2001). Furthermore, as organic product buyers are more aware that food intake does affect their health, they appreciate healthy and natural foods and are more willing to choose healthier foods to improve their health (Michaelidou and Hassan, 2008; Schifferstein and Oude Ophuis, 1998). Although the relationship between health consciousness and attitude has not been uniformly supported in all studies (Tarkiainen and Sundqvist, 2005), it is hypothesized that:

H₃: Health consciousness will positively affect attitude towards organic products.

Self-efficacy is often referred to as an indicator of personality strength (Dutta-Bergman, 2003) and as a belief that target behaviors which mitigate health threats can be successfully implemented (Jayanti and Burns, 1998). It reflects the extent of confidence consumers have in their ability to make health choices and decide on actions (Dutta-Bergman, 2003; Bandura, 1977; Scheufele and Shah 2000). It is argued that consumers that have a high level of self-efficacy are more likely to take charge of their health (Dutta-Bergman, 2003; DeVito *et al.*, 1982). In the context of this study it is believed that attitudes towards organic products may be an expression of self efficacy. Therefore, it is hypothesized:

H₄: Self-efficacy will positively affect attitude towards organic products.

Preventive health behaviors refers to behaviors that will prolong one's healthy life or practices that otherwise lessen the effects of infectious disease, chronic illness or debilitating ailments (Jayanti and Burns, 1998). Whether an individual engages in a specific preventive healthcare practice depends on a variety of factors that encompass social influences, family support or urging, commercial messages, recommendations of physicians and other healthcare spokespersons, habit, self-confidence, beliefs and values, situational factors, financial considerations, emotional factors, physical barriers, and even misperceptions (Jayanti and Burns, 1998). In this study it is predicted that preventive health behaviors will likely be an important predictor of attitude towards organic products, and hypothesized that:

H₅: Preventive health behaviors will positively affect attitude towards organic products.

The aforementioned hypotheses are graphically represented via the research model (Figure 1). This model depicts Self Efficacy-Exercising and Diet, Health Knowledge, Health Consciousness, Self Efficacy and Preventive Health Behaviors as antecedents of consumer attitudes towards organic products.

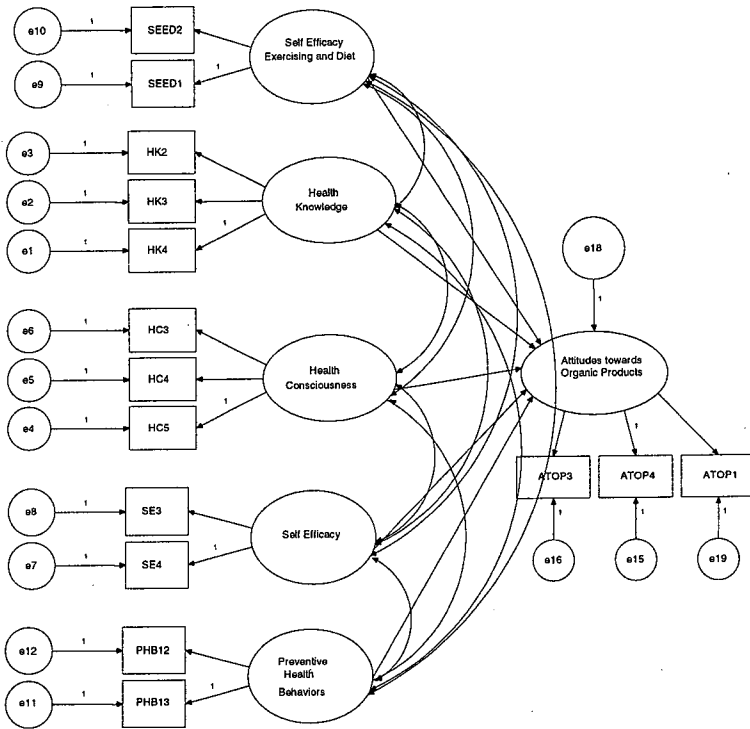


Figure 1: Research Model

MEASUREMENT

Multiple items were used to measure each of the constructs. Self efficacy-exercising and diet scale had two items and it was adapted from Jayanti and Burns (1993). Health consciousness was measured with a three item scale developed by Kraft and Goodell (1993). Self efficacy scale (two items) was adapted from Jayanti and Burns (1993). Health knowledge scale had three items and it was a modified version of a similar scale used by Brucks (1985). Preventive health behaviors scale (two items) was adapted from Jayanti and Burns (1993) who modified the scale originally developed by Moorman and Matulich (1993).

Consumer attitudes towards organic products were measured with three item scale developed by Shepherd, Magnusson and Sjöden (2005).

All of the items utilized five-point Likert scale response categories, ranging from “strongly disagree (1)” to “strongly agree (5)” to

accompany statements regarding self efficacy-exercising and diet, health knowledge, health consciousness, self efficacy, preventive health behaviors and attitudes towards organic products. Based on previous studies in the area of organic food consumption and health (Kraft and Goodell,1993; Jayanti and Burns, 1998; Chinnici et al., 2002; Radman, 2005; Brucks, 1985) the questionnaire was designed in five distinct sections elaborating with:

1. Self efficacy- exercising and diet, health knowledge, health consciousness, self efficacy and preventive health behaviors as predictors of attitudes towards organic products (Kraft and Goodell,1993; Jayanti and Burns, 1998; Brucks, 1985; Moorman and Matulich,1993).
2. Consumers' attitudes towards organic products (Shepherd *et al.*, 2005).
3. Consumers' buying behavior towards organic products (Chinnici et al., 2002; Radman, 2005).
4. Food choice factors (Lennernas *et al.*, 1997; Wandel and Bugge, 1997; Verbeke, 2001).
5. The demographic characteristics of the respondents (Age, education, occupation, family size, income, marital status, gender).

SAMPLING AND DATA COLLECTION

This study was conducted in Turkey. Beginning from the mid-1980s, Turkish society has witnessed a rapid transformation in many aspects, due to economic restructuring. The structural reform in the economy, that placed an emphasis on a liberal, market-oriented, and outward-looking development strategy, resulted in the rise of corporate power and the introduction of foreign capital through partnerships with Turkish firms, which made possible the large investments required to meet new consumer demand.

In 2007 Turkey's estimated GDP of US\$663.4 billion (at the official exchange rate) showed a real increase of 5 percent over the previous year. The World Bank forecasted an increase of 5.8 percent in 2008. Between 2002 and 2007, the growth rate has been consistently between 5 and 6 percent. Turkey is self-sufficient in most foods, although some agricultural commodities are imported. A relatively large percentage of

Turkey's land is devoted to agriculture, but the productivity of agricultural lands varies greatly. The rate for 2007 was 8.5 percent.

Data for this study is obtained from consumers living in Aksaray. Aksaray with 186.645 population is geographically located in the middle of Turkey. Cultural, economic and income indicators of Aksaray is similar to Turkey's general profile. In order to reach a sample that consists of people from different age and income groups in Aksaray, random sampling method was applied. The survey lasted from January to March, 2009 and was conducted at various locations in Aksaray. Face-to-face interviews were conducted based on a prepared questionnaire and respondents were required to be above 15 years. In the survey, respondents were asked to indicate whether they had purchased organic food products over the past six months. Furthermore, socio-demographic and attitudinal responses were also recorded. A total of 400 respondents were surveyed; 347 were subsequently retained in the final analysis after deleting those with incomplete or suspect relevant information. The socio-demographic characteristics of the respondents are given in Table 2.

Table 2: The Socio-Demographic Characteristics of the Respondents

Age	n	%	Income Level	n	%
15-25	170	49.0	Low	78	22.5
26-35	103	29.7	Medium	212	61.1
36-45	49	14.1	High	57	16.4
46-+	25	7.2	Total	347	100.0
Total	347	100.0			

Occupation	n	%	Family Size (Person)	n	%
Civil servant	112	32.3	1	5	1.4
House wife	31	8.9	2	23	6.6
Student	133	38.3	3	51	14.7
Merchant	6	1.7	4	101	29.1
Labor	15	4.3	5	76	21.9
Retired	6	1.7	6	52	15.0
Entrepreneur	23	6.6	7	24	6.9
Total	347	100.0	8+	15	4.4
			Total	347	100.0

Education	n	%	Gender	n	%
High School and lower	205	59.0	Female	206	59.4
University and over	142	41.0	Male	141	40.6
Total	347	100.0	Total	347	100.0

Overall, 347 complete and usable questionnaires were obtained. As seen in Table 2, the sample comprises 206 (59%) women and 141 men (41%). The respondents' age ranged from 15 to over 46 years. Most of the respondents were between the age categories of 15-25 and followed by the age category of 26-35. Students (38%) were in majority in the sample, followed by civil servants (32%). The sample was represented by medium income level (61%). High school and lower grade respondents comprised the 59% and university and over grade respondents comprised the 41% of the sample. Family size was mostly (29%) 4 people.

The sampling of 347 respondents allowed access to respondents with a broad range of income, age, and respondents' employment roles ranged from civil servants to entrepreneurs.

Demographic characteristics of the sample are overlapping with previous researches. A study conducted by the Food Marketing Institute (2001)

found that organic shoppers are more likely to be females and the largest percentages of these shoppers were between the ages of 25–39 (Beaudreault, 2009).

RESEARCH FINDINGS

Before the hypotheses were tested, the validity and the reliability of the scales used in the study were tested. The reliability of the scales was tested through internal consistency, by using Cronbach’s alpha which is a commonly used measure of reliability. In addition to the internal reliability, construct validity was also evaluated in order to identify whether the indicators “accurately” measure what they are supposed to measure or not (Churchill, 1996: 404). The test of the construct validity was done through factor analysis. In marketing the factor analysis is used for decreasing item numbers, developing scales and transforming data (Kinnear and Taylor, 1996: 626).

The summary of the reliability and the validity analyses’ results are seen in Table 2. For the reliability of the scales, “Cronbach α ”, the internal consistency coefficient, was calculated, and the α value was found for Self Efficacy- Exercising and Diet scale to be 0.620, for Health Knowledge scale to be 0.778, for Health Consciousness scale to be 0.713, for Self Efficacy scale to be 0.664, for Preventive Health Behavior scale to be 0.595 and for consumer attitudes towards organic products scale to be 0.749. Accordingly, it was agreed that all the scales used in this study were valid and reliable.

Table 3: The Results of Validity and Reliability Analyses

Scales	Number of Variable	Alfa Coefficients (Reliability Analysis)	Total Variance (Validity-Factor Analysis)
Self Efficacy- Exercising and Diet	2	.620	72.528
Health Knowledge	3	.778	69.451
Health Consciousness	3	.713	63.774
Self Efficacy	2	.664	74.868
Preventive Health Behaviors	2	.595	71.316
Consumer Attitudes towards Organic Products	3	.749	66.954

The factor analysis conducted for the validity of health-related factors resulted in five factors. The loading values of the first factor, which was examined under the title of Self Efficacy-Exercising and Diet, were between 0.617 and 0.731.

The second factor was examined under the title of Health Knowledge, and its loading values were between 0.711 and 0.777. The loading values of the third factor, which was examined under the title of Health Consciousness, were between 0.599 and 0.757. The fourth factor was examined under the title of Self Efficacy and its loading values were between 0.666 and 0.746. Finally, the loading values of the fifth factor, preventive health behaviors, changed between 0.578 and 0.737.

The factor analysis conducted for the validity of consumer attitudes towards organic products scales resulted in one factor. The loading values of the factor were between 0.549 and 0.814.

After determining the reliability and the validity of the scales used in the research, structural equation modeling was used to test the research hypotheses which is a combination of factor analysis and multiple regression analysis. Structural equation modeling techniques are distinguished by two characteristics: (1) estimation of multiple and interrelated dependence relationships and (2) the ability to represent unobserved concepts in these relationships and account for measurement error in the estimation process (Hair *et al.*; 1998: 584). In this research, the research hypotheses were tested by using AMOS 6.0.

The evaluation criteria and values related with the fitness of the data and the model are given in Table 4 in details.

Table 4: Fit Measures

Fit Measures	Measurement Model	Ideal Model	
Discrepancy (χ^2)	188.437	0.000	CMIN
Degrees of freedom	75	0	DF
P	0.000		P
Discrepancy / df (χ^2/df)	2.512		CMINDF
Goodness of Fit Index	.932	1.000	GFI
Adjusted GFI	.891		AGFI
Normed Fit Index	.871	1.000	NFI
Relative Fit Index	.819		RFI
Incremental Fit Index	.918	1.000	IFI
Tucker-Lewis Index	.882		TLI
Comparative Fit Index	.916	1.000	CFI
RMSEA	.066		RMSEA
Hoelter .05 Index	177		HFTVE
Hoelter .01 Index	196		HONE

As can be seen from Table 4, in evaluating the goodness of fit between the model and the data, the first measure is the likelihood ratio chi-square statistics. This value has a statistical significance ($p=0.000$). Another criterion in the evaluation of the data and the model is fitness of fit value (GFI) which was found 0.932 in this study. The closeness of this value to the one (1) represents the validity of the model. So as it can be seen, the fitness of the model and the data through that value is adequate. In addition to that, the other criteria NFI (0.87), RFI (0.819), IFI (0.918), TLI (0.882) and CFI (0.916) also indicate the fitness. Besides, the RMSEA value of the model is 0.066. This falls well within the recommended levels of 0.05 and 0.08 (Garretson *et al.*, 2002: 96, Hu and Bentler, 1999).

At last, in order to determine the required minimum sample size to test the research hypotheses at the stated level of confidence interval, Hoelter .05 and Hoelter .01 indexes were used. To test the hypotheses at 95% confidence interval level and 0.05 significance level, the required minimum sample size was determined as 177 and to test the hypotheses at 99% confidence interval level and 0.01 significance level, the required minimum sample size was determined as 196. As it can be seen from the Table 4, the sample size is much higher than the required minimum sample sizes by Hoelter .05 and Hoelter .01 indexes.

Table 5 includes the regression coefficients related with the testing of research hypotheses. The third hypothesis of the research “H₃: Health consciousness will positively affect attitude towards organic products” is accepted at the significance level of $\alpha= 0.01$; the fourth hypothesis of the research “H₄: Self-efficacy will positively affect attitude towards organic products” is accepted at the significance level of $\alpha= 0.05$ and the fifth hypothesis of the research “H₅: Preventive health behaviors will positively affect attitude towards organic products” is accepted at the significance level of $\alpha= 0.10$. Besides, the first hypothesis of the research “H₁: Self Efficacy-Exercising and Diet will positively affect attitude towards organic products” and the second hypothesis of the research “H₂: Health knowledge will positively affect attitude towards organic products” are rejected. Overall, these results suggest that health consciousness, self-efficacy and preventive health behaviors are very important factors in shaping attitude towards organic products, on the other hand, self efficacy-exercising and diet and health knowledge doesn't play a role in shaping consumer attitudes towards organics.

Table 5: Regression Weights

			Estimate	Std. Error	T value	P		Std. Regression Weights
Consumer Attitudes towards Organic Products	<--	Self Efficacy- Exercising and Diet	-.085	.074	-1.154	.248	H ₁ is rejected.	-0.093
Consumer Attitudes towards Organic Products	<--	Health Knowledge	.048	.079	.609	.543	H ₂ is rejected.	0.045
Consumer Attitudes towards Organic Products	<--	Health Consciousness	.664	.101	6.582	.000	H ₃ is accepted	0.580
Consumer Attitudes towards Organic Products	<--	Self Efficacy	.203	.086	2.370	.018	H ₄ is accepted	0.180
Consumer Attitudes towards Organic Products	<--	Preventive Health Behavior	.119	.064	1.863	.062	H ₅ is accepted	0.153

Extant research highlights health consciousness as the most important motive for explaining attitude, intention and behavior towards organic foods (Tregear *et al.*, 1994; Wandel and Bugge, 1997; Zanolli and Naspetti, 2002; Magnusson *et al.*, 2003; Baker *et al.*, 2004; Padel and Foster, 2005). Similar to this stream of research, findings in this study indicate health consciousness to be the most important motive shaping attitude towards organic products in relation to other motives, namely self-efficacy and preventive health behaviors. These findings may suggest that respondents are conscious and alert to changes about their health, as well as responsible for the state of their health, so they associate more health benefits (e.g. health preservation, health improvement) with organic products.

On the other hand self efficacy and preventive health behaviors are also found to be the following important predictors of attitude. This indicates that respondents' favorable attitude towards organic products are critically results of their strong personality that they are confident to

make health choices and take charge of their health by behaving in a way that prolong their healthy life.

The covariance values among the self efficacy-exercising and diet, health knowledge, health consciousness, self efficacy and preventive health behavior are illustrated in Table 6.

Table 6: Covariance Values

			Estimate	Standard Error	t-value	P
Health Knowledge	<-->	Self Efficacy-Exercising and Diet	0.249	0.064	3.868	0.000*
Health Consciousness	<-->	Self Efficacy-Exercising and Diet	0.197	0.061	3.219	0.001*
Self Efficacy	<-->	Self Efficacy-Exercising and Diet	0.177	0.064	2.741	0.006*
Preventive Health Beh	<-->	Self Efficacy-Exercising and Diet	0.388	0.102	3.809	0.000*
Health Knowledge	<-->	Health Consciousness	0.289	0.050	5.725	0.000*
Health Knowledge	<-->	Self Efficacy	0.139	0.049	2.839	0.005*
Health Knowledge	<-->	Preventive Health Behaviors	0.129	0.072	1.798	0.072*
Health Consciousness	<-->	Self Efficacy	0.175	0.049	3.562	0.000*
Health Consciousness	<-->	Preventive Health Behaviors	0.112	0.070	1.607	0.108
Self Efficacy	<-->	Preventive Health Behaviors	0.264	0.079	3.353	0.000*

* $p < 0.01$

** $p < 0.10$

As it can be seen from the Table 6, at the significance level of $\alpha: 0.01$, there are statistically significant and positive relationships between Health Knowledge and Self Efficacy-Exercising and Diet; Health Consciousness and Self Efficacy-Exercising and Diet; Self Efficacy and Self Efficacy-Exercising and Diet; Preventive Health Behaviors and Self Efficacy-Exercising and Diet; Health Knowledge and Health Consciousness; Health Knowledge and Self Efficacy; Health Consciousness and Self Efficacy; Self Efficacy and Preventive Health Behaviors. And also, there are statistically significant and positive relationships between Health Knowledge and Preventive Health Behavior at the significance level of $\alpha: 0.10$. Besides, no significant relationship between Health Consciousness and Preventive Health Behaviors are observed.

CONCLUSION

Recently, consumers, due to health concerns, environmental consciousness, social status consideration and other reasons, are interested in organic farming products (Özçelik and Uçar, 2008).

This paper contributes to knowledge by first studying multiple health-related factors, namely self efficacy-exercising and diet, health knowledge, health consciousness, self efficacy and preventive health behaviors in the context of organic production, and second, by simultaneously modeling these factors as predictors of attitude towards organic products. The findings reported in this study are important in further understanding of the role of health-related factors in shaping attitudes towards organic products. Findings of the study indicated that health consciousness, followed by self efficacy and preventive health behaviors, is the most important predictor of attitude towards organic products. This finding provides some support for previous research (Magnusson *et al.*, 2003) which indicates that health consciousness is a motive for shaping attitude towards organic products, and at the same time contradicts Tarkiainen and Sundqvist (2005), who refute health as a predictor of attitude towards organic foods.

Research results also showed that, besides health consciousness, individuals seem to be driven also by other motives, including self efficacy and preventive health behaviors, in shaping their attitudes towards organic products. This indicates that respondents' favorable attitudes towards organic products are critically results of their strong personality that they are confident to make health choices and take charge of their health by behaving in a way that prolong their healthy life.

LIMITATIONS AND IMPLICATIONS

Like many other empirical studies this research might also have some limitations in reference to sampling, data collection and generalization of the findings. The samples drawn for the study may not be enough to generalize the study results.

This research has made it possible to improve the understanding of Turkish consumers' attitudes and the factors that have influence in forming their attitudes towards organic products. Results of the study is of value to companies in the organic market as it provides reference framework that should be used for the marketing planning of organic

food products to launch specific promotional campaigns as well as to introduce adequate marketing policies.

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