

THE DOMINANT EFFECT OF EMOTIONAL RESPONSES ON ACTUAL GREEN PURCHASE BEHAVIOR: SEGMENTS OF TURKISH YOUNG GENERATION.

Tulin URAL

(Corresponding Author)

Assoc.Prof. Faculty of Economics and Administrative Sciences, Marketing Department, Mustafa Kemal University, Tayfur Sokmen Campus, Antakya, Hatay, Turkey;
Phone: +90 326 2455845-1242,
E-mail: tulin-ural@hotmail.com; tural@mku.edu.tr

Omer Faruk COŞKUN

Specialist. Mustafa Kemal University, Social Sciences Institute, Tayfur Sokmen Campus, Antakya, Hatay, Turkey;
Phone: +90 326 2455845,
E-mail: farukcosk@gmail.com

Dilek EFE

Specialist. Mustafa Kemal University, Social Sciences Institute, Tayfur Sokmen Campus, Antakya, Hatay, Turkey;
Phone: +90 326 2455845, E-mail:
dilekefe0606@hotmail.com

Adem AVARA

Specialist. Mustafa Kemal University, Social Sciences Institute, Tayfur Sokmen Campus, Antakya, Hatay, Turkey;
Phone: +90 326 2455845,
E-mail: avaraadem@gmail.com

ABSTRACT

The purpose of this study is to empirically investigate effect of emotional responses toward environmental issues and level of ecological knowledge on consumers' green intentions and actual green purchase behaviors and, segmentation young customers based on their these characteristics. A survey research was conducted on young Turkish people in Hatay, Turkey. In order to test the hypotheses, ANOVA, Structural Equation Modeling and Cluster Analysis were used. Research findings show that the emotional responses of young consumers play a full mediating role between ecological knowledge and intention and, between ecological knowledge and actual purchase. In addition, young people taking a course on environmental issues tend to have stronger emotional responses and involvement in actual green purchase than those not taking any course. Five clusters of young people were identified based on their personal characteristics: Insensitive group, hypersensitive group, mid-sensuality group, emotional group, and emotional but uninformed group.

Keywords: Green purchase, intention, emotion, knowledge, segmentation.

1. Introduction

Research on transitions to sustainable consumption has emerged a new global challenge. In the last two decades, unsustainable consumption practices and natural resource exploitation lead to environmental deterioration such as; global warming, life-threatening health hazards and ozone layer depletion. The Global Research Forum on Sustainable Production and Consumption brought together organizations and individuals from various countries for finding remedies and applications towards sustainable consumption practices (Vergragt et.al., 2014). From perspective of companies, they have responded by presenting a various green products and services (Chan et.al. 2013), green supply chain management (Tseng et.al. 2013), and innovation practices (Chen et.al. 2006). On the other hand, awakened by severity of environmental deterioration, consumers are gradually changing their attitude, behavior and approach in matters of consumption (Biswas and Roy, 2014).

Yet despite this strong interest from public, policy makers and companies, attention to sustainability and organic topics, in academic marketing literature has been relatively scarce (Mick, 2008). This limited attention is especially surprising considering the discrepancy between consumers' sustainable intentions and opinions and their actual buying behaviors (Doorn and Verhoef, 2015). Consumers who are aware on the concept of environmental sustainability are more likely to develop positive green purchase intentions and behaviors. This is consistent with results of the many studies in the literature, but it has remained debates toward the gap between intention and behavior. Kanchanapibul et.al. (2013, p.528) stated that "while some green products are widely advertised to have numerous attractive features to persuade consumers to try them, this is not sufficient to satisfy modern customers and lead to actual purchase". Contradict result from researchers has shown that even though consumers claim that they aware and concerns on environmental problems, their buying behavior is not reflected this preoccupation (Gardyn, 2003; Mas'od and Chin, 2014). Differences in green consumers' behavior pattern are consistently becoming the main issues. Due to this situation, a study to investigate the relation between consumers' green intention and actual green purchase behavior could help to better understand green consumer behavior. It's crucial to pay attention to the source of personal responses as well as consumers' level of judgment in green purchase process. Emotion plays an important role in revealing individuals' correlated behavior in each situation, and it seems that aggressive behavior dominates their involvement in ecological and environmental activities (Fraj and Martinez, 2006; Kanchanapibul et.al.2013). Some studies suggest that considerable ecological knowledge is significant factor to motivate people to purchase green products and services (Chan and Lau, 2000).

On the other hand, it is crucial for managers to understand a general overview of green consumer profiles and their behavior in order to develop new targeting and segmentation strategies for enhanced sustainability performance. Thus, segmentation of green consumers may help to managers for implementing more effective strategies towards each different consumer segments.

The young generation has a considerably different concept and attitude relative to other generations. Young buyers do not only consider the present, but also concerned about future effect of their present actions, preferring to become lifelong customers of green market. They seem to have more ability to reflect on their choice of environmentally-friendly products. The freedom of personal commitment appears to encourage them to decide on their selection depending on their personal affective response. Studying the young generation green purchasing behavior is important because they represent future consumers, workers and innovators, who represent the future of our society (Hume 2010, Kanchanapibul et.al.2013).

Turkish culture has long been described as being high on collectivism and power distance (Hofstede, 1980). Schwartz (1994) stated that Turkey ranked above the average in values of conservatism (12th). A more recent study on Turkish culture was conducted as a part of the GLOBE study. Findings of the GLOBE revealed predominant characteristic of Turkey to be in-group collectivism (Kabasakal and Bodur, 1998). People belonging to collectivist cultures were more eco-friendly in their behavior as compared to those who belong to individualistic cultures (Pasa et.al. 2001). Chan (2000) found that the effect of man-nature orientation on emotions related to eco-system, environment and environment related knowledge provides valuable and rigorous insights into manner in which cultural values actually determine consumers' pro-environmental behavior. This eco-friendly behavior is exhibited through consumers' emotional responses towards environmental issues unconsciously rather than cognitively grappling environmental issues (Rehman and Bin Dost, 2013).

Despite existing many researches on consumers' environmental actions and attitudes in Europe and USA, such studies are remarkably absent in the context of developing countries (Biswas and Roy, 2014; Saxena and Khandelwal, 2010; Boztepe, 2012). The purpose of this research is to empirically investigate effect of emotional responses toward environmental issues and level of ecological knowledge on consumers' green intentions and actual green purchase behaviors and, segmentation customers based on their certain personal characteristics. The main contributions of this study include: (1) it will help to more explain the discrepancy between consumers' intentions and actual purchase behaviors, (2) research findings will present from Turkish culture perspective as a different culture. Thus, it may be provided the addition evidence to understand actual green purchase behavior, (3) it will investigate the roles of emotions and ecological knowledge, (4) by classifying young consumers, business would learn and understand the consumers' segments which in turn develop an appropriate strategy and practical marketing planning to achieve long-term objectives, (5) understanding actual green purchase behaviors of consumers is of importance to the policy makers interested in stimulating the demand green products and services for cleaner environment. The remaining paper has been organized as: Section 2 defines the conceptual model and hypotheses, Section 3 presents research design, scales and analyses of empirical data and, Section 4 discusses the derived findings and presents suggestions for managers and future research.

2. Conceptual Framework

Consumption of green goods and services generates both private and public benefits. Chander and Muthukrishnan (2015, p.27) stated that "for example, a consumer benefits directly from consuming organic food because it is more nutritious and healthier with fewer risks to personal health from pesticides and herbicide residues. However, organic farms are also more sustainable and environmentally better than conventional farms because they don't release synthetic pesticides or herbicides into the environment. Thus, consumption of organic food not only directly benefits a consumer but also helps indirectly in preserving and sustaining the ecosystem which benefits of all consumers". Sustainable consumption refers to the pattern of reduced consumption of natural resources, changing lifestyle and consumption of environment-friendly products to meet the present needs and aspirations of the future generations. In the literature, many models have been developed to explain green consumption behavior such as; The Theory of Reasoned Action (Fishbein and Ajzen, 1975), The Theory Planned Behavior (Ajzen, 1991), Green Consumption Behavior (Wang et.al., 2013; Zsoka et.al., 2013); Waste Management Behavior (Barr et.al., 2005). The Theory of Planned Behavior offers a clearly define structure that allows the investigation of the influence that various factors gave on consumers' intentions to buy environmental friendly products (Ajzen, 1991).

This study's conceptual model shown in Figure 1 is developed to test effect of individualistic emotions and level of ecological knowledge on intention and actual green purchase behavior. This model was adapted from the existing model developed by Kanchanapibul et.al (2013). We focused on only two dimensions as emotional responses and ecological knowledge.

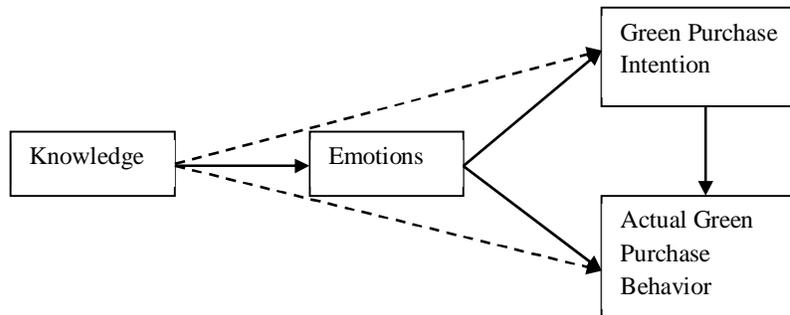


Figure 1 Conceptual model: Effects of Emotional Responses and Ecological Knowledge on Green Purchase Intention and Actual Purchase

Emotional Responses related to Environmental Issues

Sih et.al. (2004) indicated that “behavioral syndromes” were significant indicator to understand the relationship between the human and environmental dimension. Individuals who have higher affective characteristics are more sensitive for environmental problems. Emotional responses are seemed as a dominant variable for involving in ecological and environmental activities. Fraj and Martinez (2006) investigated that there is a positive and strong correlation between affect and ecological involvement. Attitudes are significantly affected by past experience, which in turn constitutes a greater desire to engage in environmental conservation (Carrus et.al. (2008). Corraliza and Berenguer (2000) examined personal norms and feelings of moral obligations in terms of recycling. They observed individuals’ personalities affect their behavior. Kim and Choi (2005) studied the effect of collectivism on green concerns and found that collectivists seem to engage in recycling behavior much more than individualists. With the self-openness of collectivists, green behavior will flow through more attitudinal and cognitive concepts. Biswas and Roy suggested that personal factors like attitude and personality traits influence to consumers’ decisions. Doorn and Verhoef (2015) stated that altruistic individuals are more sensitive to sustainable behavior. Strong emotional responses toward green issues are likely to lead to actual green purchase behavior. Therefore, this study proposes the following hypotheses:

H1: Young consumers with stronger emotional responses to green issues would have a stronger intention to become involved in green purchasing.

H1a: Young consumers with stronger emotional responses to green issues would involve in more actual green purchasing.

Ecological Knowledge

Consumption is prone to change based on ecological knowledge. Lack of information about environmental problems often results in an attitude-behavior gap between consumer environmental concern and actual purchase behavior (Ginsberg and Bloom, 2004). Thus, having information may fill the gap. Some studies indicated that considerable ecological knowledge is significant factor to motivate people to learn more intensely (Chan and Lau, 2000). Bonini and Oppenheim (2008) found that ecological knowledge

influences to purchasing behavior, in terms of recycled products and vehicles. In general, there is still an advocate through the association of ecological knowledge and behavior. Empirical literature has not yet concluded that the association between theory and practical action is always a positive one (Kanchanapibul et.al., 2013; Park et.al., 1994). There is much evidence to show the failure to associate these two dimensions (Chan and Lou, 2000). The idea of this study is that knowledge influences to the emotions of a person which in turn lead to intention and actual green purchase behavior. It's much more probably that knowledge affects indirectly to intention and actual purchase. Kanchanapibul et.al., (2013) ignored the relationship between person's effect (emotions) and knowledge in their model. According to our concern, this relationship reserves to much more explaining. Therefore, this study proposes the following hypothesis:

H2: Young consumers with more ecological knowledge would have stronger emotional responses.

H2a: Emotional responses would play a mediating role between ecological knowledge and intention to become involved in green purchasing.

H2b: Emotional responses would play a mediating role between ecological knowledge and actual green purchasing.

Intention and Actual Green Purchase Behavior

Purchase intention refers to consumer tendency to purchase a product (Yoo et.al., 2000). Many studies report a strong relation between attitude and preference toward a product (Kim and Ko, 2012; Cases et.al., 2010). Purchase intention is an attitudinal variable for measuring customers' future contributions to a brand or product (Kumar et.al., 2009). In order to assess, the possible impact of the consumers' intention is positively linked with the actual green purchase behavior; this study proposes the following hypothesis:

H3: Young consumers with a strong intention toward green purchasing are more likely to become involved in actual green purchasing.

Demographic Characteristics

We include gender, age and income as demographic variables. Women might have higher tendency toward purchasing green products and services because they express more concern for communal goals than men (Winterich et.al., 2009). Environmental issues are fairly complex and may be better understood and grasped by consumers with more education (Ngobo, 2011). Research findings about the relation between age and green purchase behavior are mixed (Thompson, 1998). Consumers with more income should be less affected by the costs of green products and more likely to behave sustainably, although empirical evidence on this link is inconclusive (Doorn and Verhoef, 2015). Therefore, this study proposes the following hypotheses:

H4: Women are more likely to become involved in actual green purchase than men.

H5: Young consumers with more education are more likely to become involved in actual green purchase than young consumers with less education.

H6: Young consumers are more likely to become involved in actual green purchase than older consumers.

H7: Young consumers with more income are more likely to become involved in actual green purchase than young consumers with less income.

3. Research Method

3.1. Sampling and Data Collection

The data used in this study were drawn from students registered in Mustafa Kemal University-Antakya High College. Sample size were determined by formula [$n = p \cdot q / (e/z)^2$; confidence level: 0.95, tolerance level: 0.04, max. Variance $p=q$: 0.50, $n=625$]. The sample consists of 886 students ($n=886$). A sample was randomly generated from database of the university. Director of the university was asked to allow their students to participate in the study. Personal interview was used for communication. The survey questionnaire was self-administered and response rate is 95 %.

3.2. Scales

To measure of the structures in the conceptual model, we utilized from the existing scales in the literature. All of the study's scales have been developed by Kanchanapibul et.al., (2013). Some items were changed due to adaptation of them Turkish culture. Item measurement consists of a five-point Likert-type scale which ranged from "1= Strongly Disagree" to "5= Strongly Agree". The items of each initial scale along with their codes are presented in Table 1.

Table 1 Scale items

Constructs	Variables
Emotions toward environmental issues	E1. It frightens me to imagine that many of the products I have are disrupting the environment. E2. When I think of the way humans are destroying the environment, I get angry and frustrated. E3. Humans are really abusing the environment. E4. The balance of nature is easily disrupted, especially by human activity. E5. We should take responsibility for environmental issues as we are the cause of environmental damage.
Ecological Knowledge	K1.What is the ecological perspective (a relationship between organism and environment ; Recycling; Environments; Control of pollution) K2.Practically all of the lead pollution in the atmosphere is caused by humans (Airplanes; Industries; Smoking; Cars and Private Transportation) K3.What is the main cause of the death of sea creatures? (Plastic bags and garbage ; Animal remains/Dead water plants; Pollution from watercrafts; Chemical fertilizers) K4. As the Chernobyl nuclear power plant leak radiation a long time after disaster, how long did it take before residents could safely return to the areas? (A year; 5 years; 10 years; Over 20 years) K5.Some factors that cause soil pollution are? (Draught; Poisonous Metals ; Sparse Rain; Farming Rotation)
Green Purchase Intention	I1. I avoid buying products which are potentially harmful to the environment. I2. I have changed my principle products for ecological reasons. I3. When I have to choose between two similar products, I choose the one that is less harmful to the environment. I4. I make a special effort to buy paper and plastic products that are made from recycled materials I5. I will not consider environmental issues when making a purchase. (R)
Actual Green Purchase	P1. I feel that I have played a great part in helping the environment when I use green products. P2. I feel more comfortable when I use green products rather than normal ones. P3. There is not much I can do about the environment, and my experience of green products does not change my belief. (R) P4. I aim to buy green products again after my first purchase. P5. I would recommend green products to my friends and family.
*Items were measured on a 5-point scale, ranging from 1= Strongly disagree to 5= Strongly agree. **Knowledge items were answerable on a 4-category basis, one correct choice format with 1 point for a right answer and 0 point for a wrong answer. Bold letters indicate the correct answer for knowledge of ecological issues. *** (R) = Score reversed when analyzing ****The possible range for the average summated mean score of emotions, knowledge, intention and actual purchase is between 0 and 5.	

3.3. Analyses

3.3.1. Descriptive statistics of the sample

Larger part of respondents is female (55%). The largest group of respondents is between 21 and 23 years old (53%). The largest of group in other groups has family income between TL 1000 and TL 1999 (41%). The number of students who takes a course on environmental issues is 397 (44,8 %) and, another group who doesn't take any course on environmental issues has 488 persons (55,1 %). The means of variables based on whole sample were found for knowledge as 2, 26; for emotions as 4, 27; for intention as 3, 60; and for actual purchase as 4, 01. It's seemed that students have strong emotions toward environmental issues. They have insufficient ecological knowledge. They have average level of intention to purchase green products and services. They have fairly involved in green purchasing in the past.

3.3.2. Measurement Model

The assessment of measurement properties (reliability and validity) for the model's scales, except for knowledge scale (because it's single factor) is the key task in the measurement analysis. This assessment process was carried out in an iterative procedure described as follows:

1. After data entry, the raw data were assessed for missing data, outliers, skewness and kurtosis;
2. Conduct an exploratory factor analysis for factors and see whether the hypothesized three-factor structure emerges;
3. Delete items that are poorly related to their hypothesized factors or that are associated with more than a single factor;
4. Using the Cronbach's alpha estimates and item-to-total correlations check the reliabilities of items measuring each hypothesized factor and remove items that are unreliable;

Consequently, the process resulted in 13 reliable items and three factors for structural model. Items by coded with I5 and P3 were dropped due to unreliable.

Table 2 Factor Loadings and Reliability Estimates for Model Scales

Factors	Emotions, Intention and Actual purchase scales			Cronbach's alpha
	Items	Factor Loadings		
Emotional responses	E1	0,573		0,82
	E2	0,677		
	E3	0,858		
	E4	0,826		
	E5	0,735		
Intention	I1		0,667	0,76
	I2		0,812	
	I3		0,634	
	I4		0,642	
Actual Purchase	P1		0,708	0,75
	P2		0,734	
	P4		0,714	
	P5		0,619	
KMO:0,884 ; Bartlett's test, χ^2 : 4280,035 ; df. = 78, sig. = 0.000				

The results of exploratory factor analysis for model structures showed satisfactory statistics. Three factors were identified based on the rule of Eigenvalues greater than one and Screen test. Principle Components Method and Varimax Rotation were used in the analysis. The factors explained 60% of the variance. A value of KMO (Kaiser-Meyer-Olkin measure of sampling adequacy) test was found as 0.88 and obtained a χ^2 of 4280,03 (df. = 78, sig. = 0.000) for Bartlett's test. The estimated Cronbach's alpha value for the three factors ranged from 0.75 to 0.82 (Table 2).

3.3.3. Structural Model-Path Analysis and Mediating Effect of Emotional Responses toward Green Issues

After assessment measurement model by exploratory factor analysis, in order to assessment validity of constructs and understand relationships hypothesized among knowledge, emotions, intention and actual purchase, two structural models were estimated by using path analysis. Baron and Keny (BK) procedure (1986) also was implemented to find the mediating effect of emotional responses.

In the first model, the structural model was identified for six direct relationships, by including in partially mediating effects; as seen on Figure 1. When the model was tested, E1 variable was needed to remove due to having relationship with other factor according to the suggestion of modification indices in the analysis. The decrease in chi-square was 177,0. The model was tested again by removing E1 variable and, the convergent and discriminate validity of the model was checked. The values of composite reliability (CR) for all constructs were greater than acceptable value of 0,60 (for emotions 0,79; for intention 0,72, for purchase 0,88). The values of average variance extracted (AVE) also met recommended AVE value of 0,50 (range from 0,50 to 0,54) (Bagozzi and Yi, 1991). Thus, it can be noted that the results confirm a reasonable validity and reliability level of the measured items. Later, when we assessed the goodness of fit statistics, fit indices of the overall model were found unsatisfactory (e.g. RMSEA = 0,10). It's also found that there was no relationship between knowledge and intention and, between knowledge and actual purchase. Their parameters were insignificant ($t < 0,05$).

In the second model, these insignificant paths were removed from the structural model. The model was tested again. The LISREL analysis showed excellent overall fit of the second model as indicated by the RMSEA, AGFI, CFI, NFI and IFI values of RMSEA:0.06; AGFI:0.93; CFI:0.97; NFI:0.97 and IFI:0.97 respectively (Figure 2). Although the chi-square statistic was significant ($\chi^2 = 278,86$; $df = 61$; $p = 0,00$), given the satisfactory fit of the model, the estimated structural coefficients were then examined to evaluate the hypotheses. Explained variance by model factors was fairly high ($R^2 = 0,72$). As predict Hypothesis 1 and Hypothesis 1a, "emotional responses toward environmental issues" has a significant impact on "intention" ($\beta = 0.42$; $p < 0.01$) and on "actual purchase" ($\beta = 0.27$; $p < 0.01$). Thus, H1 and H1a were supported. The results also showed that "ecological knowledge" has a significant positive effect on "emotional responses toward environmental issues" ($\beta = 0.16$; $p < 0.01$). H2 was supported. Because there isn't relationship between ecological knowledge and intention and, between ecological knowledge and actual purchase, these results are to show that emotional responses play a full mediating role between ecological knowledge and intention and, between ecological knowledge and actual purchase. H2, H2a and H2b were supported. Finally, "intention" directly influences to "actual purchase" ($\beta = 0.65$; $p < 0.01$). H3 was supported.

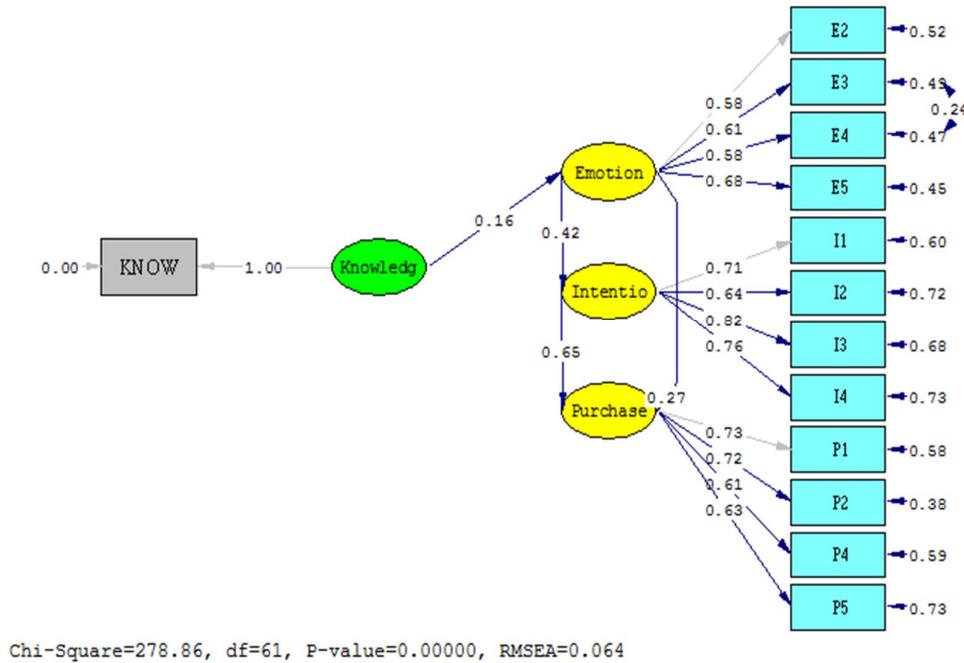


Figure 2 Structural Model/Standardize Coefficients- The Relationships among Emotional responses, Ecological Knowledge, Intention and Actual Purchase.

Briefly, all of the model paths are presented in Table 3;

Table 3 Model Paths and Standardized Values

Model paths	Estimate	Sig.
Intention ← Emotions	0,42	0,01
Actual purchase ← Emotions	0,27	NS
Emotions ← Knowledge	0,16	0,01
Intention ← Knowledge		NS
Actual purchase ← Knowledge		NS
Actual purchase ← Intention	0,65	0,01

3.3.4. Differences of Actual Green Purchase Behavior based on Gender, Education, Age, and Income- Analyses of Variance and t test.

One way analysis of variance and t-test were performed with the young groups’ demographics characteristics as independent variables; and knowledge, emotions, intention and actual purchase values as dependent variables (Table 4).

T-test for gender (code 1 refers to female while code 2 is male) revealed that knowledge, emotions, intention and actual purchase values differ significantly between female and male. Female tend to have stronger emotions, more knowledge, higher intention and actual purchase for green products and services than male. Hypothesis 4 is supported.

T-test for the assessment of education effect was also used. Education variable was measured according to the students whether take a course related to environmental issues or not, because whole sample consists of the students who were registered in same college (Code 1 refers to students taking a course on environment, code 2 is vice versa as group 2). Findings suggested that knowledge, emotions, intention and actual purchase

values differ significantly between group 1 and group 2. Young people who take a course on environment tend to have stronger emotions, more knowledge, higher intention and actual purchase for green products and services. Hypothesis 5 is supported.

One way analysis of variance for age (codes from 1 to 5 refer to the level of age as shown in Table 4) suggested that only actual purchase behavior was significant and, differs between persons who their old are less than 20 and those between 24 and 26 years old. Hypothesis 6 is supported.

Finally, ANOVA analysis for income (codes from 1 to 5 refer to the level of income, assessed by Turkey's money unit, as shown in Table 4) also revealed that only intention was significant and, differs between students who have family income less than TL 999 and those have family income between TL 2000 and TL 2999 and, between students who have family income TL 1000-1999 and those have family income between TL 2000 and TL 2999. Because the result is insignificant based on actual purchase behavior, Hypothesis 7 is rejected.

Table 4 Groups' Differences- T test and One Way ANOVA test

Grouping Variable	Variables	Groups	Mean	T or F value	Sig.
Gender	Emotions	1	4,34	2,46	0,01
		2	4,22		
	Knowledge	1	2,36	2,85	0,00
		2	2,18		
	Intention	1	3,73	4,22	0,00
		2	3,49		
	Actual purchase	1	4,15	4,84	0,00
		2	3,90		
<i>1: Female; 2: Male</i>					
Course	Emotions	1	4,34	2,46	0,01
		2	4,22		
	Knowledge	1	2,36	2,85	0,00
		2	2,18		
	Intention	1	3,73	4,22	0,00
		2	3,49		
	Actual purchase	1	4,15	4,84	0,00
		2	3,90		
<i>1: Students taking a course on environment; 2: Students no taking a course on environment</i>					
Age	Emotions	Insignificant for all groups			0,27
	Knowledge	Insignificant for all groups			0,37
	Intention	Insignificant for all groups			0,30
	Actual purchase	1	4,08	3,09	0,01
		2	4,00		
		3	3,71		
4		3,92			
5	4,23				
<i>There is difference between group 1 and group 3. 1: less 20 years old ; 2: 21-23 years old; 3: 24-26 years old; 4:27-29 years old; 5: 30 + years old</i>					
Income	Emotions	Insignificant for all groups			0,26
	Knowledge	Insignificant for all groups			0,32
	Intention	1	3,62	3,53	0,00
		2	3,67		
		3	3,33		
		4	3,44		
		5	3,60		
Actual purchase	Insignificant for all groups			0,40	
<i>There is difference between group 1 and group 3 and, between group 2 and group 3. 1: less TL 999 ; 2: TL 1000-1999; 3: TL 2000-2999; 4:TL 3000-3999; 5:YL 4000 +</i>					

3.3.5. Classify of Young People based on their Characteristics-Cluster Analysis

Cluster analysis was used for segmenting the young people based on model variables including emotional responses, knowledge, intention and actual purchase. The analysis was conducted with two-steps: hierarchical and K-means clustering. In the first step, five clusters were determined by hierarchical clustering analysis. Ward's method with squared Euclidean distance was used to classify the young people. Number of clusters was specified by using the coefficients, which indicated the squared Euclidean distance between two cases in the Agglomeration schedule. Five cluster solutions were accepted. Later, in the second step, K-means cluster analysis to produce only one solution was implemented. All dimensions were taken based on mean of their items. Results of ANOVA showed that all variables were significant for classification. Table 5 shows the means of the variables for each segment. Table 6 also shows the number of students in each group. Clusters were defined by examination of differences in mean values on variable separately (Lehmann, 1989). Five clusters could be identified: *Insensitive group*, *hypersensitive group*, *mid-sensuality group*, *emotional group*, and *emotional but uninformed group*. These clusters were named according to their most different characteristic relative to other clusters.

Table 5 Final Cluster Centers

Variables	Cluster				
	1	2	3	4	5
Emotions	2,14	4,56	2,45	4,30	4,49
Knowledge	1,81	3,21	2,03	2,23	1,56
Intention	2,08	4,01	3,45	2,70	3,98
Actual purchase	2,05	4,32	3,94	3,45	4,35

The first group of young people was named the “insensitive group” because of these people has the least degree of emotional responses. They have ecological knowledge at the minimum level. Their intention of green purchase and involvement in green purchasing are very low level. As thus, it can be noted that insensitive group ignores green issues completely. The second group was named the “hypersensitive group” due to having the strongest emotional state resulting from the assessment of ecological information about green issues. They have more intention to buy green products and services and, involvement in green purchasing relative to other groups. The third group was named the “mid-sensuality group” because they have average scores based on all characteristics. Forth group was named the “emotional group” because this group has strong emotions but, less ecological knowledge than “hypersensitive group” has. The last one, fifth group was named the “emotional but uninformed group” because they have very strong emotions while very low level of ecological knowledge. However, this group has the highest score of actual green purchasing in the all of other groups.

Table 6 Number of Cases in Each Cluster

Cluster	
1	42
2	283
3	36
4	191
5	334
<i>Total</i>	<i>886 persons</i>

4. Results and Discussion

The study presents here examines the mediating role of emotional responses between the ecological knowledge and the intention of green purchase and, between the ecological knowledge and the actual green purchase behavior. Also, it explains the differences of young peoples' tendencies based on their demographic characteristics and, segmentation of them based on their level of emotional responses, level of ecological knowledge, intention and actual green purchase behavior. The findings of the study support the following conclusions.

In the light of the findings of the present study, there are two critical concerns. One of them is that the emotional responses of young generation related to green issues appears to be very strong. Another one is that the ecological knowledge of young people appears to be very weak. The other important finding of the study is to reveal the mediating role of emotional responses between ecological knowledge and actual green purchasing. The ecological knowledge is an antecedent of younger's emotional responses toward green issues. Emotional responses have a significant and positive effect on intention and actual green purchase behavior. Taking together all these findings, including high actual green purchasing score of young people as well, it can be say that only having ecological knowledge is not sufficient to lead actual green purchase. Moreover, the ecological knowledge indirectly affects to actual purchase by mediating role of the person's emotional responses level. The more ecological knowledge creates the stronger emotions in a person which in turn causes to purchase green products. Therefore, young people with stronger emotions related to green issues apparently have a strong intention to become involved in purchasing green products, and involved in actual green purchasing. It is suggested that both of the private sectors and public managers should appeal to heart and brain of consumers in their messages of advertisements toward target people.

Young people who take a course on environment have stronger emotions, more knowledge, higher level of intention and actual purchase for green products and services. This finding seems to be parallel to be previous findings in that it indicates the most informed young people tend to actually utilize green products. The results also show that women tend to more involved in green purchase than men. Income is found insignificant. There aren't differences among income groups based on knowledge, emotional responses and actual purchase except from intention. This finding probably show that it's no much matter the costs of green products for young people if they have strong emotional responses toward green issues for purchasing green products.

Another finding is that young consumers are more likely to become involved in actual green purchasing than older consumers. They have a remarkable reaction to green behavior. They believe themselves to be an essential part of ecology. The strong emotional responses imply a more deeply intimate sensibility. Therefore, marketers should target young people with strong emotional responses for their innovative green products.

Another result shows that five clusters of young people could be identified. The first group, the "insensitive group" has the least degree of emotional characteristic. It is suggested that marketers should create awareness about environmental issues, as a prior step in marketing strategy. The second group was named the "hypersensitive group" due to having the strongest emotional state resulting from the assessment of ecological information about green issues. It's suggested that marketers should target this group firstly and establish brand loyalty by various campaigns. The third group was named the "mid-sensuality group" because they have average scores based on all characteristics. It's suggested that marketers should try to switch this group to be sensitive. Forth group was named the "emotional group" because this group has

strong emotions. It's suggested that marketers should try to lead this group to advocate green products, for example with social media tools. The last one, fifth group was named the "emotional but uninformed group" because they have very strong emotions while very low level of ecological knowledge. However, this group has the highest score of actual green purchasing in the all other groups. It's suggested that marketers should try to further inform them about environmental issues.

The limitations and future research directions are as follows.

Due to the sample covers only students in a college, it is recommended caution for generalizing the result of the study. Future researchers should develop studies with other samples, including adults. Empirical findings on this study were derived from sample consisted of Turkish young consumers. Therefore, replicating this study's findings with additional samples from different culture is necessary.

Conclusion

This study is found that the emotional responses toward environmental issues influence positively to intention and actual green purchase. Young consumers with stronger emotional responses toward green issues would intent and involve in more actual green purchasing. As a different point of this study than previous studies, the finding is that emotional response mediates completely the knowledge-intention and knowledge-actual purchase relationship. Young people taking a course on environment tend to have stronger emotional responses, more ecological knowledge, higher intention to become involved in green purchase and actual purchasing of green products and services. Five clusters of young people could be identified as; Insensitive group, Hypersensitive group, Mid-sensuality group, Emotional group, and Emotional but uninformed group.

This study should be counted meaningful in that it has made contribution to debates on discrepancy of intention-actual purchase relationship. Additionally, the study has been investigated the segments of young green consumers. As thus, it will help marketers to determine more effective marketing strategies for achieving actual purchase, toward each segment.

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