# A STUDY ON THE RELATIONSHIP BETWEEN PERCEIVED CONSUMER EFFECTIVENESS, ENVIRONMENTAL CONCERN AND GREEN PURCHASE BEHAVIOR OF CONSUMERS AT UNIVERSITY

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#### **ABSTRACT**

Developed by the consumers' realizations about the negative effects they pose for nature, environmental consciousness has gradually turned into a concern. Environmental concern is defined as a parameter trying to identify the consumers' concerns about the environment that can arise at present and in the future.

Perceived consumer effectiveness is people's beliefs in the fact that they can make differences socially while solving problems. In other words, it is the assessment criteria of the consumers' skills in affecting the problems of environmental resources individually.

There are many factors affecting the consumers' purchase behavior. The changes happening in these variables that affect consumers also have an effect on the consumers' purchase behavior. Gaining popularity in all around the world in recent years, environmentalist sensitivity, sustainable development, sustainable life and concerns about the future lead to environmental purchase behaviors, and to the firms' finding ways of green strategies.

Apart from having a lot of criterion affecting purchase behavior, in this study, the effects of the effectiveness of consumers and environmental concern on purchase behavior, regarded as specific to the purchase behavior, is sought to be defined at Adıyaman University Besni Vocational School of Higher Education, chosen as a sample.

The study is conducted on 2000 students of Adiyaman University Besni Vocational School of Higher Education. Besides, the sample is conducted on 533 students that are chosen by simple random sampling method and that participated in the study voluntarily.

In this study, Alpha Coefficient (Cronbach's Alpha) is utilized for measuring the reliability of the scale. According to the results of reliability analyses, the coefficient is found as 0,715. Therefore, the internal consistency and reliability of the graphic used in the study can be found satisfying.

**Key Word:** Perception, Green consumers, Green marketing.

## 1. INTRODUCTION

In the past, consumers were only interested in purchase and consumption, whereas, today, there arosegreen consumers, whoare interested in the production process and waste disposal that use up scarce resources. As their number raise, abroad market comes out for foundations. Green consumers compose a target group, which is hard to believe for managersresponsible for marketing (Yücel and Ekmekçiler, 2008:9).

Green consumerism includes the active research and assessment about the products and describes the behavior of a new consumer who devotes himself to saving the environment (Ottman, 1992:16).

Green consumers are defined as the people who friendly adapt to the environment and buy green products more than the average. Green consumers assume that individual consumption is an effective way of the preservation of environment. They are with the opinion that environmental protection is an individual issue, and therefore, it should not be left to public authority, environmentalists or scientists (Boztepe, 2012:7). Taking care of the environment and engaging in such activities varies among the green consumers. In conclusion, there arises a classification of environmental consumption (Uydacı, 2011:167):

- Supporters of Green Movement: These people are active supporters of the environmentalist organizations or members of it.
- Green Thinkers: These people make effort to purchase green products and are involved in the campaigns of green movement.
- Basic Green Consumers: These people are worried about the environment and they get into the purchase behavior of protective products within their knowledge.



 Generally Worried Consumers: These people are worried about the environment even if anything about it is or isn't conducted.

Green consumers are the consumers that have the power of affecting their environment with their decisions on purchase behavior (Karaca, 2013:100).

In literature, there are various ideas about the consumers' belief that they can do something individually, that is, the possible effects of perceived consumer effectiveness and environmental consumption on green purchase behavior.

To exemplify, Schlegelmilch, Bohlen and Diamantopoulos (1996) conducted a research on the relationship between environmental consciousness and green purchase behavior. The results of this study indicated that beliefs have an effect on green purchase behavior, yet, the study conducted by Yam-Tang and Chan (1998) in Hong Kong showed that consumers do not reflect their environmental interests to their purchase behavior. This is because the participants of the study think that environmental problems originate from managements. Therefore, even though they are worried about the environment, they do not have green purchase behavior.

Ellen, Weiner and Cobb-Wolgren (1991), ascertained that perceived consumer effectiveness about environmental concerns is different from environmental concern and ideas, and that such behaviors as green purchase is a unique parameter of the environmentally-conscious behavior.

Straughan and Roberts (1999) found out a positive relationship between perceived consumer effectiveness and environmentally-conscious behavior.

Roberts (1996) put forth that in the process of predicting the behavior of consumer, perceived consumer effectiveness is the first variable.

Within the scope of the study, the possible relationship between the components of perceived consumer effectiveness and environmental concern and the component of green purchase behavior is studied.

#### 2. CONCEPTUAL FRAMEWORK

Classical marketinginvolves the supply of goods that satisfy consumers' needs with affordable prices and the support of the arrival of these goods with a value. Green marketing, on the other hand, is more complex, and it requires new marketing and managing strategies to show effective efforts concerning how to create and define environmental goods that are able to attract consumers. Green marketing contributes to two main targets (Uydacı, 2011:130):

- In order to develop products that strike consumers' fancy, there is the need for success, reasonable prices and the goods that are adaptable to the environment and that pose minimum negative effects.
- In order to represent a high-quality appearance, there is the need for environmental sensitiveness. Soon after this, the producers need to manufacture goods adaptable to the environment.

1960s can be stated as the "awakening period", 1970s as the "movement period", 1980s as "taking responsibility" and 1990s can be called "a power for market" in terms of consumers. By the end of the 1980s, there was an increase in the number of consumers calling themselves "environmentalists". In this period, consumers realized that the natural resources were limited. Then, they represented their environmental concerns demanding and using environment-friendly products. (Akdeniz Ar, 2011:67).

The production process of green products is comparatively different from non-green products. The price of green products is much higher than the other ones due to such requirements as technique and management effort, and the necessity to adapt the sale prices to the differences among marketing mix components. However, most of the studies conducted around the world in general, green consumers consent to pay higher amount of money for environmentalist products than non-green consumers do(Armağan and Karatürk, 2014:5).

Perceived consumer effectiveness is people's belief that they can create difference in solving social problems. In other words, it is the assessment criteria of consumers' individual ability to affect the problems of environmental resources (Biner, 2014:74).

It is quite crucial for consumers to take the responsibility of minimizing the threat of environmental problems in globalterms as it is for producers. As the consumers buy green products, the fact that they make conscious choices can be transformed into a way that the production process will have high environmental sensitivity. In societies that are not environmentally sensitive, it is highly possible that consumers will not represent any environmental behavior and continue creating problems for environment. If environmentally sensitive and conscious consumers, among the similar goods, buy the green products that does not pollute the world, does not cut up the natural sources, is re-cyclable or can save its value, they will directly affect the manufacture and production way of managements that supply green products' stay in market and non-green ones' remove from the market (Kızıloğlu vd., 2013:21).

Environmentalist movements, becoming rapidly popular since 1980s and especially 1990s, has contributed a lot to raise the awareness of environmental consciousness. New generation has moved with an increasing consciousness of saving the environment. This awareness has not been restricted to the classical idea of "let's not waste the resources". In contrast, the fact that the goods that are advertized are respectful to the environment. Also, some messages stating resources should be kept clean were given by encouraging recycling (Türk, 2011:380).

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The awareness, improved as consumers realized the negative effects they create has turned into a concern. Environmental concern is defined as a parameter trying to identify the consumers' concerns about the environment that can arise at present and in the future. The people having much deeper environmental concern can be identified as paying more attention to ecological consumption and behaving more sensitive towards the environment in terms of their purchase behavior (Biner, 2014:77).

There are many factors affecting the consumers' purchase behavior. Many models have been put forward in order to be able to explain consumer behaviors. The common component of all these models is that it classifies the variables affecting consumers. These variables are as follows:

Internal variables; are psychological impacts and the basic determiners of the behavior.

External variables; are sociocultural determiners

Demographic changes; are the determiners of age, gender, education etc.

The effects of marketing efforts; the group that includes the strategies applied by marketing staff.

Situational effects; physical environment, time, reason for purchase, emotional and financial situations can be some examples for these effects.

The changes happening in the variables that affect the consumers also have an effect on the purchase behavior of the consumers. Recently, environmental sensitivity, sustainable development, sustainable life and worries about the future cause some environmental purchase behaviors to happen and lead managements to create green strategies (Akdeniz Ar, 2011:73-74)

#### 3. METHODOLOGY

In positivism, there is a social world outside and free from us, and these properties belonging to this social world should be measured by objective methods. Here, the reality is external and objective. If based on the observations of external reality, information is real (Altunışık vd., 2010:6). In the study, objective information is collected with a positivist approach and in quantitative ways.

Induction helps people to have an idea about the general view by observing limited amount of examples (Altunışık vd., 2010:22). In the study, based upon the answers given by 553 participants selected by simple random sampling method at Adıyaman University Besni Vocational School of Higher Education, the researchers tried to have an idea about the general view.

#### 3.1. The Purpose of the Study

Besides many factors affecting purchase behavior, in this study, perceived consumer effectiveness about green purchase behavior and the effects of environmental concern on purchase behavior is tried to identify with the help of the samples chosen from the students of Adıyaman University Besni Vocational School of Higher Education.

### 3.2. Population and Samples

The study population consists of approximately 2000 students of Adiyaman University Besni Vocational School of Higher Education. "Simple random sampling method is the fact that each member in a population have the chance to be chosen "equally" and "freely". That is, each member should have the chance to be selected equally and none of their right to be chosen should prevent and affect any others' right to be so. According to the table of "Acceptable Samples' Greatness for Definite Population" given in (Altunişik vd., 2010:135), 322 samples is found sufficient for 2000 population. Therefore, for this study, 553 samples can be said to be statistically satisfactory.

#### 3.3. The Scales of the Study

The questionnare used in the study consists of 4 different parts.

In the first part, there are 8 premises,taken from (Biner, 2014) with the aim of measuring the level of the participants' environmental concern and prepared as 5 point likert scale.

In the second part, there are 4 premises, taken from (Biner, 2014) with the aim of measuring the participants' perceived consumer effectiveness levels and prepared as 5 point likert scale.

In the third part, there are 8 premises, taken from (Biner, 2014) with the aim of measuring the the level of participants' purchase behavior and prepared as 5 point likert scale.

In the fourth part, in order to measure the participants' demographic variables, there are anonymous questions about gender, educational background of mother, educational background of father, occupation of mother, occupation of father, monthly income of the family and some geographical questions about the area the family lives in.

#### 3.4. Statistical Methods Used in Data Analysis

In data analysis process, the researchers used correlational analysis method so as to analyze the relationship between the components of perceived consumer effectiveness and environmental concern, which are the main problems focused in

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the study, and the component of green purchase behavior. Correlation analysis is an analysis method oriented to identify the degree of the relationship or dependency between two variables at the level of interspace and ratio (Altunışık vd., 2010:226). Should whether there is any relationship between two variables is searched, then the easiest technique is correlation analysis, providing that the data will be in the minimum level of interspace or ratio (Altunışık vd., 2010:213).

Apart from this, in order to determine whether there is a significant difference between the components of environmental concern, perceived consumer effectiveness and green purchase behavior and the component of demographical variables (gender, educational background of mother, educational background of father, occupation of mother, occupation of father, monthly income of the family and the geographical area the family lives in), Independent Sample T Test and One Way Anova are utilized.

In addition, the mean score of answers that the participants gave to the questions about the components of environmental concern, perceived consumer effectiveness, green purchase level and related premises are given. Besides, the frequency levels of the questions about gender, educational background of mother, educational background of father, occupation of mother, occupation of father, monthly income of the family and the geographical area the family lives in are stated as a table

# 3.5. Reliability Analyses

The data of the scale used in the study is analyzed through Alpha Coefficient (Cronbach's Alpha), an internal consistency model relying on the mean score of the correlation between scale factors. In order to state that the scale is reliable, in the results of the reliability analysis, the Alpha coefficient, changing between 0 and 1, is expected to be higher than 0,60 (Hair vd., 1995: 431).

In the study, the results of the reliability analysis concerning questionnare variables, measured by more than one question, is stated in Table-1.

Table-1: Reliability Analysis Results

Number of Items	Cronbach's Alpha Coefficient
20	0,715

#### 4. FINDINGS AND DISCUSSIONS

#### 4.1. Frequency Distribution of Demographic Variables

#### Table-2: The Participants' Frequency Distribution of Demographic Variables

Table-2 indicates that:

39,6% of the participants are male and 60,4% are female.60,4% of the participans' monthly income is between 0-1000 TL, 26,3% of them have between 1001-2000 TL monthly income, 7,1% of them have between 2001-3000 TL monthly income, 4,5% of them have between 3001-4000 TL monthly income, 1,1% of them have between 4001-5000 TL monthly income and 0,6% of them have equal to or more than 5001 TL monthly income.

#### 4.2. Frequency Distribution regarding Components and Premises

Table-3: Frequency Distribution of Components and Premises

	N	Mean	Std. Deviation
The Component of Environmental Concern	533	3,57	,797
1-We are getting close to the limitation of headcount that the world can hold.	533	2,81	1,249
2- In order for us to have a healthy economy, the way the number of factories is increased need to be checked.	533	3,73	1,310
3-Our world is a place that has limited space and limited number of natural resources.	533	3,32	1,317
4-There has to be a limit in the way the number of factoriesis increased.	533	3,59	1,275
5-Nature has quite a sensitive balance, which can be easily destroyed.	533	3,65	1,295
6-The fact that people interfere in nature generally has a harmful effect on it.	533	3,51	1,294
7-In order for people to continue their lives, they need to live in accordance with nature.	533	4,07	1,227
8-Mankind give serious harms to environment.	533	3,87	1,320
The Component of Perceived Consumer Effectiveness	533	3,60	,790

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1-There is nothing a consumer can do by himself for environmental pollution.*  2-When using the products, I always try to imagine the effects is has on	533 533	3,47	1,342
2-When using the products. I always try to imagine the effects is has on	533		
people and environment.		3,60	1,161
3-Owing to the fact that a consumer cannot have any effect on environmental pollution, I do not think about the effects of things that I do on environment.	533	3,77	1,259
4-I can affect other people by choosing the products of environment-friendly companies.	533	3,57	1,183
The Component of Green Purchase Behavior	533	3,26	,614
1-I try to use the products made from scarcely-found matters of nature.	533	3,29	1,203
2- I never buy sprays (i.e Deodorant).	533	2,69	1,254
3- I try to buy reusable products (i.e batteries that can be charged) as far as possible.	533	3,38	1,281
4-Regardless of the effects of them on the environment, I buy the cheapest products.	533	2,78	1,316
5- I always buy products that have biodegradable package (i.e nylon bags)	533	3,45	1,203
6- I always buy products that have recyclable package (i.e glass, paper, plastic)	533	3,60	1,163
7-If one of the two similar products give less harm to nature, I do not pay attention to its package shape and buy it.	533	3,36	1,282
8-Among two similar products, if the paper and plastic used in the one that has simple package is recyclable, I choose it.	533	3,53	1,262

<sup>\*</sup>Reversely coded.

The answers given by the participants indicate that the component of environmental concern has a mean score of 3,57, the component of perceived consumer effectiveness has a mean score of 3,60 and the component of purchase behavior has a mean score of 3,26. This case shows that the participants are in the medium level in terms of environmental concern, perceived consumer effectiveness and green purchase behavior.

#### General mean scores indicate that:

In terms of the component of environmental concern, the premise "In order for people to continue their lives, they need to live in accordance with nature.", with the score of 4,07, has the highest mean score. Also, the premise "We are getting close to the limitation of headcount that the world can hold." with the score of 2,81, has the lowest mean score.

In terms of the perceived consumer effectiveness component, the highest and reversely coded mean score, which is 3,77, belongs to the premise "Owing to the fact that a consumer cannot have any effect on environmental pollution, I do not think about the effects of things that I do on environment." Also, the lowest and reversely coded mean score, which is 3,47, belongs to the premise "There is nothing a consumer can do by himself for environmental pollution."

In terms of purchase behavior, the highest mean score, which is 3,60, belongs to the premise "I always buy products that have recyclable package (i.e glass, paper, plastic)". On the other hand, the lowest mean score, which is 2,69, belongs to the premise "I never buy sprays (i.e deodorant)."

# 4.3. The Analyses of Relationships

#### Table-3: Correlation Table of Relationship Analysis

In order to define the relationship or dependancy between the components of environmental concern, perceived consumer effectiveness and purchase behavior level, a correlational analysis is conducted.

The results of the analyses indicate that;

There is a positive and meaningful relationship between environmental concern and perceived consumer effectiveness (r: 0,335)

There is a positive and meaningful relationship between environmental concern and green purchase behavior (r: 0,335)

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There is a positive and meaningful relationship between perceived consumer effectiveness and green purchase behavior (r: 0,335)

From these results, it can be concluded that there is a positive and moderate relationship between environmental concern and perceived consumer effectiveness, a positive and moderate relationship between environmental concern and green purchase behavior, a positive and low-grade relationship between perceived consumer effectiveness and green purchase behavior (Gürbüz and Şahin, 2016:264)

# 4.6. Analyses of the Differences

Before testing differences to determine whether there is a significant difference between the components of environmental concern, perceived consumer effectiveness and green purchase behavior and the component of demographical variables, which compose the scale, the researchers analyzed whether the data was normally distributed.

As a result of the normality analysis, the skewness and kurtosis of the data is between +1,0 and -1,0. Therefore, in order to define whether there is a significant difference between management scale with values and demographical variables, the researchers decided to conduct parametric tests (Gürbüz and Şahin, 2016:218).

# Table-8: The Results of the T Test Between Gender and Environmental Concern, Perceived Consumer Effectiveness and Green Purchase Behavior

In order to identify whether there is a significant difference between environmental concern and gender, researchers conducted Independent Samples T Test. The results indicated that the perceive of environmental concern does not result in any change in terms of gender. (p:0,126<0,05)

In order to identify whether there is a significant difference between perceived consumer effectiveness and gender, researchers conducted Independent Samples T Test. The results indicated that gender has an effect on perceived consumer effectiveness. (p:0,336<0,05)

In order to identify whether there is a significant difference between green purchase behavior and gender, researchers conducted Independent Samples T Test. The results indicated that gender has an effect on the perceive of green purchase behavior. (p:0,629<0,05)

# Table-13: Anova Test Results of the Relationship between Monthly Income of Family and Environmental Concern, Perceived Consumer Effectiveness and Green Purchase Behavior

In order to determine whether there is a significant difference between environmental concern and monthly income of the family, the researchers conducted One-Way Anova Test. The results indicated that environmental concern did not change according to the monthly income of the family. (Sig:0,609>0,05)

In order to determine whether there is a significant difference between perceived consumer effectiveness and monthly income of the family, the researchers conducted One-Way Anova Test. The results indicated that perceived consumer effectiveness did not change according to the monthly income of the family. (Sig:0,981>0,05)

In order to determine wherher there is a significant difference between green purchase behavior and monthly income of the family, the researchers conducted One-Way Anova Test. The results indicated that green purchase behavior did not change according to the monthly income of the family. (Sig:0,609>0,05)

#### **5.RESULTS AND DISCUSSION**

According to the results of the study, the participants are positive enough to think that the world is not close to the limitation of the headcount that it can hold. In contrast, they are also in an alert position as to think that it is a must for people to live in accordance with nature in order to continue their lives. This situation confirms that new generation consumers that participated in the study are more sensitive and well-informed about nature.

Additionally,in terms of the component of environmental concern, they did not hold the same opinion tendency that includes the thought of keeping industrialization under control about the topic, which states that people are getting close to the limitation of headcount that the world can hold.

The participants stated they did not agree with the reversely coded questions about the fact that nothing can be done about environment individually. Regarding the perceived consumer effectiveness, this statement indicates that the participants' level of perceived consumer effectiveness is high. However, the fact that the scale of perceived consumer effectiveness is higher than the other measurements supports this case.

From the perspective of purchase behavior, it is concluded that the participants saying, among two similar products, they would choose the green oneeven if it hadsimple package, did not show the same sensitivity about buying products like sprays etc. This situation is thought to originate from the participants' being young university students and paying attention to staying well-gromed. Additionally, it is concluded that perceived consumer effectiveness, defined as the belief that something can be done individually about environmental problems, as the level of environmental concern raises, increases.



In addition to this, it is seen that as environmental concern raises, green purchase behavior increases. That is, the people having higher level of environmental concern show more tendency towards green purchase behavior. Besides, it is concluded that as the level of perceived consumer effectiveness raises, the tendency towards green purchase behavior increases. In other words, it can be stated that the people believing more in the fact that they can do something for environmental problems individually reflect this belief of them to their green purchase behavior. (Altunişik, vd., 2010:226)

This research study aims at defining the impacts of green purchase behavior, perceived consumer effectivism and environmental concern on purchase behavior. The future researchers are to be suggested to enlarge this study with the participants having more possibility to affect economical life with their attitudes and behaviors, for they have more power of purchase.

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