

## A Study of Purchase Intention of Eco-friendly Products: A Cross-Cultural Investigation between Korea and China

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### Abstract

*This study sought to compare the purchase intention of eco-friendly products between Korean and Chinese consumers. For this purpose, it established a conceptual model in which environmental knowledge affects attitude, subjective norms, and perceived behavioral control toward eco-friendly products, which in turn are connected to the purchase intention of eco-friendly products. According to the results of the analysis, in both Korean and Chinese cases, consumers' environmental knowledge positively affected their attitude toward eco-friendly products and subjective norms, and the variable that exerted the strongest influence on purchase intention was the subjective norm. On the other hand, this research found some differences in the results between the two countries: in the Korean case, the path from perceived behavioral control to purchase intention was not statistically supported, whereas in the Chinese case, the path from environmental knowledge to perceived behavioral control was rejected.<sup>1</sup>*

**Keywords:** Theory of planned behavior, An extended theory of planned behavior, Eco-friendly products, Environmental knowledge, Purchase intention, Korea, China, Comparative Culture

### 1. Introduction

In the summer of 2018, South Korea recorded the largest number of 'heatwave' days since 1973, when the statistics of meteorological observations started being made [1]. As environmental abnormalities like this have emerged all over the world, the crisis awareness of the global environment has been rising. In addition, the need for environmental behavior for the survival of the present and future generations has been emphasized.

Korean consumers are also more concerned about environmental consumption than in the past. However, looking at the statistical numbers, we can see that the percentage that environmental concerns lead to the purchase behavior of eco-friendly products is still low [2][3]. On the other hand, in some studies carried out in Europe, in which environmental education has been actively conducted, more than 70% of the study participants had high levels of crisis awareness of environmental problems, and nearly two-thirds of them were purchasing eco-friendly products [4][5]. The reason that such differences in environmental behavior occur among countries may be due to differences in individuals' levels of

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consciousness. Still, the degree of understanding of eco-friendly consumption varies among countries. Consumers' understanding of eco-friendly products may vary among countries because of differences in economic and education levels and culture. Environmental problems cannot simply be identified as problems of individual countries, so cross-national studies need to be conducted on the problems. However, most studies on eco-friendly issues surveyed consumers of one country rather than identifying differences between countries [6][3]. Therefore, we studied purchase intention with Korean and Chinese consumers. It would be meaningful to compare Chinese consumers to Korean consumers, reflecting the recent changes in China, which has shown great interest in environmental issues, such as enacting the environmental law in 2015.

To this end, this study established a theoretical model by applying the theory of planned behavior, which enables a comprehensive study of antecedent factors of human behavior, and suggested a model of 'an extended theory of planned behavior.' The antecedent variable [7] was environmental knowledge, which has been known to lead to environmental attitude change through prior studies.

This study aimed to conduct empirical tests on the proposed framework of the process toward the intent of purchasing eco-friendly products and to examine differences in processes between Korean and Chinese consumers.

## **2. Literature review**

### **2.1. Theory of planned behavior**

To explain human behavior, Ajzen suggested attitude, subjective norm, and perceived behavioral control as the antecedent variables and established the theory of planned behavior, which postulates that those three variables affect human behavior intention [7]. Furthermore, this scholar stated that it would be possible to add necessary variables or modify the paths to enhance the power of explanation of the theory [7]. Thus, we aimed to examine the process of consumers' intention to purchase eco-friendly products by including environmental knowledge. It also exerted a significant effect on the existing variables of the theory of planned behavior.

### **2.2. Environmental knowledge**

In this study, environmental knowledge is information for understanding and evaluating human behavior that can influence the global environment and refers to general knowledge in the ecosystem [8]. Individuals with a high level of environmental knowledge are highly interested in the seriousness of environmental problems, take environmental actions, and make positive changes in environmental attitudes and eco-friendly actions [9]. Therefore, this study included environmental knowledge.

## **3. Conceptual model for this research**

This study suggested six hypotheses by applying the theory of planned behavior. Moreover, it examined differences in the same paths between Korean and Chinese consumers.

H1. Environmental knowledge will have a positive effect on attitudes toward eco-friendly clothing.

H2. Environmental knowledge will have a positive effect on subjective norms toward eco-friendly clothing.

H3. Environmental knowledge will have a positive effect on perceived behavioral control toward eco-friendly clothing.

H4. Attitude toward eco-friendly clothing will have a positive effect on the intention to purchase the products.

H5. Subjective norms toward eco-friendly clothing products will have a positive effect on the intention to purchase the products.

H6. Perceived behavioral control toward eco-friendly clothing products will have a positive effect on the purchase intention of the products.

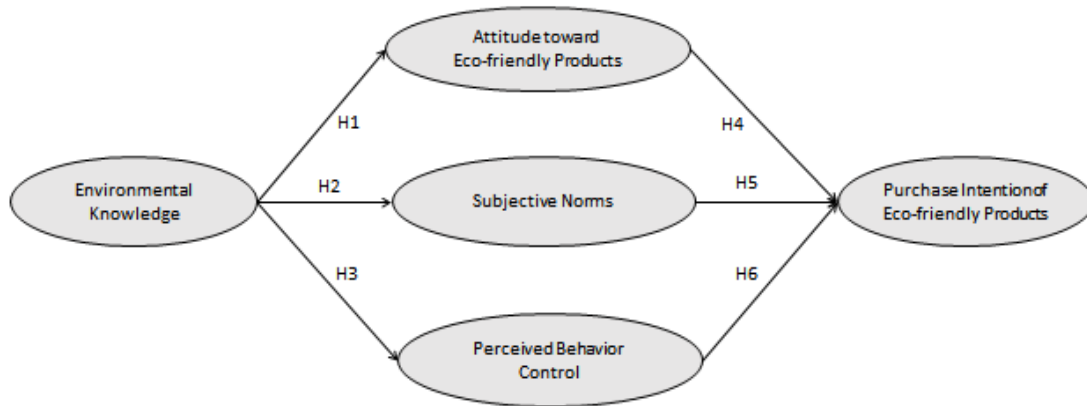


Figure 1. The conceptual model

Table 1. The survey items for all the variables

Constructs	Items
Environmental knowledge	I am very knowledgeable about environmental issues.
	I know how to select products and packages that reduce the amount of waste in landfills.
	I understand the environmental phrases and symbols on product packages.
	I am confident that I know how to sort my recyclables properly.
	I know that I buy products and packages that are environmentally safe.
Attitude	<Purchasing Eco-friendly apparel products:> Bad-good
	Foolish-wise
	Harmful-beneficial
	Unfavorable-favorable
	Negative-positive
Subjective norm	People who are important to me think I should purchase Eco-friendly apparel products.
	People who are important to me would approve of purchasing Eco-friendly apparel products.
	People who are important to me want me to purchase Eco-friendly apparel products.
Perceived behavioral control	I can purchase Eco-friendly apparel products.
	Whether or not I purchase Eco-friendly apparel products is entirely up to me.
	I will likely have plenty of opportunities to purchase Eco-friendly apparel products.
	I can purchase Eco-friendly apparel products.
Purchase intention	I intend to purchase Eco-friendly apparel products.
	I plan to purchase Eco-friendly apparel products.
	I want to purchase Eco-friendly apparel products.

## 4. Methodology

This study collected data from female college students in their 20s. College students of the age group have comparatively similar characteristics in terms of socio-economic status among countries [10]. The eco-friendly products selected for this study were clothing—the shopping category in which women in their twenties are most interested [11].

For this research, in South Korea, an online survey was conducted with female college students residing in Seoul, and in China, the survey was administered through an online survey site - Wenjuanxing - with female college students residing in Beijing. This study used the same survey questions for the two cases. The final questionnaire was further back-translated into Korean and English and reviewed by bilingual scholars. All the survey questions are based on prior studies by a 7-point Likert scale. An exclusion criterion, in the final analysis, included non-response and age and sex, which were not covered by the limitations of the online survey.

We collected 236 and 315 completed questionnaires in South Korea and China, respectively, and used them for the statistical analyses. For each variable, we modified the survey items validated and used by a prior study to make them suitable for the Korean and Chinese contexts. The final analyses included five survey items for environmental knowledge [5], 5 for attitude [12], 3 for subjective norm [12], 4 for perceived behavioral control [13], and 3 for purchase intention [13] [Table 1]. According to the reliability test results, all the measures showed a satisfactory level of reliability, having a reliability coefficient (Cronbach's  $\alpha$ ) greater than .80.

## 5. Data analysis result

This study tested the suggested hypotheses using the SPSS and AMOS statistical programs.

According to the results of the SEM (Structural Equation Modelling), both countries showed satisfactory model fit indices. In the Korean case, except for one hypothesis (regarding PBC  $\rightarrow$  PI path), the other five were supported. In the Chinese case, only one hypothesis (regarding the EK  $\rightarrow$  PBC path) of the six was not statistically supported. In a nutshell, in both cases, only one hypothesis was rejected, but the rejected hypothesis was different between the two cases. That is, we found differences between Korea and China Table 2.

Table 2. The results of the structural equation modeling

H	Paths			South Korea			China		
				Coefficient (t-value)	R <sup>2</sup>	Results	Coefficient (t-value)	R <sup>2</sup>	Results
H1	EK	$\rightarrow$	AT	0.39(3.91)**	0.12	Supported	0.25(3.39)	0.06	Supported
H2		$\rightarrow$	SN	0.26(3.58)**	0.07	Supported	0.43(4.45)**	0.19	Supported
H3		$\rightarrow$	PBC	0.53(8.12)**	0.28	Supported	0.17(1.90)**	0.04	Rejected
H4	AT	$\rightarrow$	PI	0.19(4.11)**	0.04	Supported	0.28(3.42)**	0.08	Supported
H5	SN	$\rightarrow$		0.57(8.78)**	0.30	Supported	0.49(4.81)**	0.24	Supported
H6	PBC	$\rightarrow$		-0.05(-1.24)	0.00	Rejected	0.31(3.30)**	0.10	Supported

## 6. Discussion and conclusion

This comparative study compares the purchase intention of eco-friendly clothing products between two countries. To this end, the present research suggested a model of an extended

theory of planned behavior that had environmental knowledge as the antecedent variable and examined differences in the whole process between Korean and Chinese. According to the test results of the suggested hypotheses, in both the Korean and Chinese cases, environmental knowledge turned out to have a positive effect on subjective norms and attitudes. As environmental knowledge increased, eco-friendly attitudes were likely to change more positively, and eco-friendly subjective norms became stronger. Thus, environmental knowledge education is highly likely to lead to eco-friendly purchase intention in both countries.

On the other hand, we found a few differences between the Korean and Chinese cases. In the Korean case, only the hypothesis expected a positive association of the six hypotheses. The hypothesis concerning the positive relationship between environmental knowledge and perceived behavioral control was rejected in the Chinese case. This research shows that through environmental knowledge education, both Korea and China are highly likely to lead to changes in eco-friendly purchasing processes. In particular, it is expected that if subjective norm elicits changes that socially call for eco-friendly behavior, more consumption will lead to a higher percentage of eco-friendly purchasing.

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