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Article

# Determinants of Organic Cotton Apparel Purchase: A Comparison of Young Consumers in the U.S.A. and South Korea

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**Abstract:** The purpose of this research was to examine consumers from distinct cultural groups and identify similarities and differences in their green purchase behaviors. The sample consisted of consumers from the U.S.A. and South Korea and the theory of planned behavior was used as a theoretical framework to test the influence of diverse constructs on consumers' purchase intentions toward organic cotton apparel. For both countries, perceived behavioral control (PBC) and descriptive norms were strong predictors of purchase intentions and injunctive norms strongly influenced attitude formation. However, the study also found different results between the two groups. For example, while attitude was the strongest predictor of purchase intentions in the U.S.A. group (strength of influence on intentions: attitude > descriptive norms > PBC > injunctive norms), it had an insignificant effect in the South Korea group. For the South Korea group descriptive norms and PBC had strongest effects on consumers purchase intentions (strength of influence on intentions: descriptive norms = PBC > injunctive norms > attitude). South Koreans were more affected by the social pressure: their purchase intentions were strongly influenced by both injunctive norms and descriptive norms in contrast to the findings from American consumers. Injunctive norms were an insignificant predictor of purchase intentions in the U.S.A. group. This result is consistent with previous research that suggest conformity is a crucial factor for people belonging to a collectivistic culture. Exposure of others' purchasing behavior is particularly important in motivating consumers' buying in collectivistic culture. Marketers of organic cotton apparel may consider using diverse formats of media to display consumers' ethical buying behaviors or creating product design or packaging that can directly reveal the ethical features of the product to display greater exposure in the market.

**Keywords:** organic cotton; consumers; cross-cultural; structural equation modeling; theory of planned behavior

## 1. Introduction

Once seen as a niche minority, environmentally conscious consumers have become an important consideration and a valuable opportunity for many marketing departments [1]. As a result of the growing number of environmentally conscious consumers, marketers often incorporate environmental features into marketing activities such as offering green products and packaging [2,3]. According to Textile Exchange, the organic sector has been dramatically expanding in recent years [4]. The number of organic producers was 2.3 million in 2014, which was a 13% increase from the previous year. In terms of organic cotton, the top 10 users include H&M, Inditex, Carrefour, and Nike. The averaged proportion of organic cotton from the overall cotton usage in these top 10 companies was reported to be 29.6% which directly shows an increased adoption of organic in the textile market [4].

Organic cotton production involves “using organically certified or untreated seeds and farming methods that are free from synthetic chemical inputs” [5] (p. 56). The United States Department of Agriculture (2014) mentioned that cotton crops use approximately 7% of the entire pesticides applied to crops [6]. Exposure to pesticides or being physically proximate to cotton farming communities can be dangerous as they can lead to high incidents of life-threatening diseases and environmental problems [7]. Organic cotton offers environmental benefits because its production is based on farming practices that support ecological balance, which includes avoiding the use of synthetic pesticides or fertilizers, maintaining water and soil quality, and conserving wildlife [5,7].

Nielson recently conducted a large online survey with more than 30,000 consumers in 60 countries and findings from this survey show that sustainability is an important consideration when purchasing products: 66% of respondents were willing to spend more for products made from firms that make less environmental impact [8]. Nielsen suggested, despite high rates of unemployment, many consumers have strong intentions to spend more for green products.

To what extent can these findings be applied to consumers in different countries? Are there any differences across countries regarding consumers’ perception of buying green products? Many studies point out the need of developing country-specific marketing strategies, but limited number of research has examined cross-cultural differences in the domain of green apparel buying behaviors. Therefore, the purpose of this research is to examine consumers from distinct cultural groups and identify similarities and differences in their green purchase behaviors.

The sample consisted of consumers from the U.S.A. and South Korea and the theory of planned behavior was used as a theoretical framework to test the influence of diverse constructs on consumers’ organic cotton apparel purchase behaviors.

## 2. Literature Review and Hypotheses Development

### 2.1. Theory of Planned Behavior

The theory of planned behavior (TPB) is used to predict individual’s intention to perform a behavior in a specific condition. According to TPB, behavioral intention is influenced by attitude (i.e., the extent to which an individual has positive or negative evaluation of performing the behavior), subjective norms (i.e., belief about whether others approve or disapprove of performing the behavior), and perceived behavioral control (PBC) (i.e., perception of ease or difficulty to perform the behavior) [9]. Although not mentioned in the initial TPB model, the significant relationship between subjective norms and attitude has often been supported in previous research [10,11].

Within the TPB, the concept of social influence is represented by subjective norms that measure the level of social pressure an individual perceives in relation to performing or not performing a certain behavior. The effect of subjective norms on attitude or behavior has long been an important theme in social psychology and their relationship has been supported across a wide range of human behaviors in previous studies [10–13]. However, studies also found that that subjective norms exert only a limited effect on behavioral intentions. Armitage and Conner’s meta-analysis on TPB, examining various behaviors and populations, showed that the correlation between subjective norms and behavioral intentions is significantly weaker than that of attitude-intentions and PBC-intentions, suggesting that intentions are mainly influenced by personal factors such as attitude and PBC [12]. Many studies indicate that the weak relationship of subjective norms-intentions could be due to the theory’s narrow conceptualization of its normative construct (e.g., [13,14]). They point out the need to conceptualize the normative construct in a different manner. One approach is to incorporate concepts of social identity theory into TPB to identify the group from which the social norms have been originated. According to social identity theory, an individual defines his/her identity through group membership that leads to a comparison of in-groups (groups we belong to) and out-groups (groups we do not belong to) [15]. In-group membership was found to influence consumers’ purchase-related decisions (e.g., [16,17]). Fielding et al. used an extended TPB model that incorporates social identity concepts to

predict engagement of sustainable agricultural practices [18]. They examined social norms in relation to social identity by including in-group norms in the model and found a significant effect of in-group norms on intentions to engage in sustainable agricultural practices.

An alternative approach to better conceptualize the normative construct is to discriminate between two types of social norms, injunctive norms (i.e., individual's perception of what ought to be done which is based on the approval of significant others) and descriptive norms (i.e., individual's perceptions of whether the behavior is typically performed by others), rather than viewing social norms as a single construct, because they perform as separate sources of human motivation [19,20]. The injunctive norms refer to beliefs of what represents socially approved or disapproved behaviors. Subjective norms from the TPB is conceptually identical to injunctive norms as the construct involves perception of the social pressure for engaging in a behavior. The descriptive norms describe what the majority of people do and provide an indication of what would be an effective and adaptive behavior: "If everyone is doing it, it must be a sensible thing to do." [19] (p. 1015). A subsequent meta-analysis by Ravis and Sheeran showed that the percentage of variance explained in intention went up by 5% by adding descriptive norms and after taking into account attitude, injunctive norms, and PBC [21].

When studying proenvironmental or green behaviors, the independent influence of injunctive and descriptive norms has been continuously supported including the examination of littering [19], energy conservation [22,23], purchase of organic and fair-trade apparel [24], participation in a hotel's environmental conservation program [25], and recycling behaviors [26].

Findings from apparel research that incorporates TPB have shown that attitude [24,27,28], injunctive (or subjective) norms [24,27–29], and descriptive norms [24,29] have significant effects on American consumers' intentions to purchase green apparel. There are significantly less studies that examine consumers from other countries, however, one study found that the strongest predictor of intentions to purchase green apparel among Chinese consumers was attitude followed by PBC and injunctive norms [30]. For Indian consumers, descriptive norms (peer influence) were found to be a significant antecedent of organic apparel purchase [31]. In spite of a number of studies in the domain of green consumptions, there are limited findings of cross-cultural examination, particularly, focusing on the effect of injunctive and descriptive norms on green apparel purchase behaviors. In an attempt to fill this gap in the literature, this study proposed the following hypotheses of examining the relationships between TPB constructs in distinct cultural groups.

**Hypothesis 1 (H1).** *Attitude will have a positive effect on intentions to purchase organic cotton apparel.*

**Hypothesis 2 (H2).** *PBC will have a positive effect on intentions to purchase organic cotton apparel.*

**Hypothesis 3 (H3).** *Injunctive norms will have a positive effect on forming attitude toward purchasing organic cotton apparel.*

**Hypothesis 4 (H4).** *Descriptive norms will have a positive effect on forming attitude toward purchasing organic cotton apparel.*

**Hypothesis 5 (H5).** *Injunctive norms will have a positive effect on intentions to purchase organic cotton apparel.*

**Hypothesis 6 (H6).** *Descriptive norms will have a positive effect on intentions to purchase organic cotton apparel.*

## 2.2. Individualistic and Collectivistic Culture

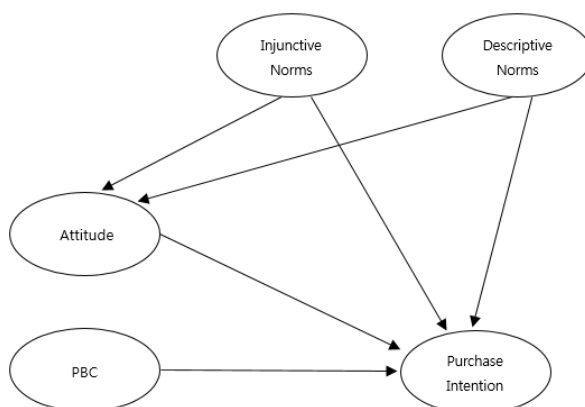
Hofstede used five dimensions to categorize countries based on their cultural characteristics and one dimension he used was individualism/collectivism (IDV) [32]. The primary issue discussed by this dimension is the level of interdependence that a society holds among the members. It relates to whether a self-image of an individual is defined in regards to "I" or "We".

According to Markus and Kitayama's study, in an individualist culture, personal interests are more central compared to the interest of the group [33]. People tend to be independent and they are encouraged to have unique characteristics that distinguish them from others. Conformity is often viewed negatively and uniqueness is viewed more positively. On the other hand, in a collectivistic culture, identity is based on the group to which a person belongs [32]. Collectivistic culture focuses more on the group level rather than on the individual level. Therefore, people belonging to this type of culture are not usually motivated to stand out from their social group [34]. Conformity is a crucial factor that should be maintained at all times and difference among individuals is generally avoided [35]. While Western countries tend to be a part of an individualist culture, most Asian countries share a collectivistic culture. Hofstede conducted a large global survey to assess several cultural dimensions in different countries that included individualism/collectivism measures. The scores were standardized and fell between 0 and 100 [32]. According to the results, the United States has the highest individualism/collectivism score of 91 possessing the strongest individualist culture in the world. In addition, other western countries such as France and England have high scores on this measure, 71 and 89 respectively. Asian countries such as Japan, China, and Korea score considerably low compared to western countries which are 46, 20, and 18, respectively [36].

In the domain of green purchase behaviors, Western consumers' purchase is typically influenced more strongly by attitude than social norms [10,37,38]. Social norms generally have a greater effect on Asian consumers' purchase. For example, Chan and Lau examined purchase behaviors of green products and found that social norms exert significantly stronger influence on purchase intentions among Chinese consumers compared to American consumers [39]. They also found that PBC had a significantly stronger effect on Chinese consumers' purchase intentions which means that Chinese consumers have less volitional control over the purchase. Authors suggested that this may be attributed to their lack of necessary resources such as money or available products compared to American consumers. This study, however, did not specify the product category when examining consumers' green purchase behaviors. In the current literature, there is insufficient understanding regarding the role of TPB constructs in the purchase process of green apparel in different countries, in particular, comparison between consumers from individualist and collectivistic culture. Therefore, based on the literature review, the following hypothesis was created.

**Hypothesis 7 (H7).** *The strength of relationship between TPB constructs will differ between American and Korean consumers. In particular, the positive effects of social norms (injunctive and descriptive norms) and PBC on purchase intention will be stronger for Korean consumers than American consumers.*

Figure 1 shows the conceptual model of this study that illustrates the aforementioned hypotheses based on previous research findings.



**Figure 1.** Conceptual model of this study.

### 3. Methods

#### 3.1. Sample

A total of 334 participants (164 for the U.S.A. sample and 170 for South Korea sample) were recruited to examine purchase behaviors of organic cotton apparel. For recruitment of consumers residing in the U.S.A., Amazon Mechanical Turk, which is a popular crowdsourcing service that provides instant access to a large number of potential participants for online surveys was used. Consumers residing in South Korea were recruited from a Korean marketing agency that specializes in online survey research. To include similar age groups in the two samples, the age of the participants was limited to be in the range from 20 to 29. Demographic characteristics of the participants including gender, age, and education level are presented in Table 1. The two groups from the U.S.A. and South Korea did not differ in terms of gender,  $\chi^2(2, N = 334) = 0.05, p = 0.82$  and education level,  $\chi^2(6, N = 334) = 6.62, p = 0.36$ . Mean age of American consumers (mean age = 25.55) was 2.26 years higher than Korean consumers (mean age = 23.29),  $t(332) = 8.46, p < 0.001$ .

**Table 1.** Demographic characteristics of the sample.

Variable	U.S.A.		South Korea	
	Frequency	%	Frequency	%
Gender				
Male	85	51.8%	86	50.6%
Female	79	48.2%	84	49.4%
Age				
20–24	42	25.6%	94	55.3%
20–25	122	74.4%	76	44.7%
Education				
Did Not Complete High School	1	0.6%	0	0%
High School/GED	18	11.0%	8	4.7%
Some College	64	39.0%	67	39.4%
Associate Degree	11	6.7%	13	7.6%
Bachelor’s Degree	58	35.4%	71	41.8%
Master’s Degree	10	6.1%	10	5.9%
Advanced Graduate/Professional work or Ph.D.	2	1.2%	1	0.6%

#### 3.2. Instruments

Measures from previous studies were used and items were modified to fit the focus of the research topic. For example, Bansal and Taylor’s study that examined behavior of switching banks for mortgage measured attitude by using the statement “For me, switching my mortgage from my bank to a new bank would be...” and had bipolar items including “a bad idea-a good idea”, “foolish-wise” and “unpleasant-pleasant” to record responses [40]. For this study, the statement was modified to “For me, buying organic cotton apparel would be...” and respondents gave answers using bipolar scales. All responses were rated on a seven-point Likert-type scale (e.g., 1 = strongly disagree and 7 = strongly agree). Since the two groups used different languages, the questionnaire was first developed in English and then translated into Korean. The Korean version was back-translated into English at the final stage to ensure that it reflected the true item content in the original English questionnaire.

Five items measured attitude [40,41], three items measured injunctive norms [40,42], three items measured descriptive norms [43], four items measured PBC [40,41], and three items measured purchase intentions [41,44].



#### 4. Results

The data were first examined to assess the normality of distribution. Skewness and Kurtosis values for all measures fell between  $-1.96$  and  $+1.96$  suggesting that the data is normally distributed [45]. Confirmatory factor analysis (CFA) results showed an acceptable data-model fit ( $\chi^2/df = 1.84$ ,  $p < 0.01$ , CFI = 0.96, TLI = 0.95, RMSEA = 0.07. for the U.S.A. group;  $\chi^2/df = 2.20$ ,  $p < 0.01$ , CFI = 0.95, TLI = 0.93, RMSEA = 0.08 for the South Korea group). As shown in Table 2, factor loadings, Cronbach alphas, composite reliabilities, and the average variance extracted (AVE) values were examined. All factor loadings exceeded 0.60, Cronbach alphas and composite reliability values were in the range from 0.77 to 0.94 and 0.79 to 0.94. respectively, and AVE of the factors were above the suggested 0.50 threshold confirming convergent validity [46]. Additionally, discriminant validity was assessed by comparing AVE and correlation values. As presented in Table 3, all AVE values were larger than the square of the correlations of the constructs, confirming discriminant validity [46]. The next stage of the CFA analysis involved testing the measurement invariance of data collected in the U.S.A. and South Korea. The results showed a good fit for the configural invariance model,  $\chi^2/df = 2.03$ ,  $p < 0.01$ , CFI = 0.95, TLI = 0.94, RMSEA = 0.06, which indicates that the factor structure is identical in both samples.

The goodness-of-fit indices of the structural model showed a mediocre fit to the data especially for the South Korea group ( $\chi^2/df = 2.11$ ,  $p < 0.01$ , CFI = 0.95, TLI = 0.93, RMSEA = 0.09. for the U.S.A. group;  $\chi^2/df = 3.14$ ,  $p < 0.01$ , CFI = 0.90, TLI = 0.87, RMSEA = 0.11 for the South Korea group). To improve the model fit, an additional path was included based on the modification indices, that is, a path from descriptive norms to PBC. The effect of descriptive norms on PBC seemed reasonable in the context of purchasing organic cotton apparel because if many people important to an individual purchase organic cotton apparel, it would be more likely that he/she perceives less barriers in purchasing the same product. The original model was modified to include this additional path and the fit of the revised model was improved and within an acceptable threshold ( $\chi^2/df = 2.06$ ,  $p < 0.01$ , CFI = 0.95, TLI = 0.93, RMSEA = 0.08 for the U.S.A. group;  $\chi^2/df = 2.44$ ,  $p < 0.01$ , CFI = 0.93, TLI = 0.91, RMSEA = 0.09 for the South Korea group).

As seen in Figure 2 and Table 4, for both countries, PBC and descriptive norms were strong predictors of purchase intentions and injunctive norms strongly influenced attitude formation. Descriptive norms exerted a significant effect on PBC in both countries as well. However, the two groups showed different results regarding attitude–purchase intentions, descriptive norms–attitude, and injunctive norms–purchase intentions relationship. For example, while attitude was the strongest predictor of purchase intentions in the U.S.A. group (strength of influence on intentions: attitude > descriptive norms > PBC > injunctive norms), it had an insignificant effect in the South Korea group. For the South Korea group descriptive norms and PBC had strongest effects on consumers' purchase intentions (strength of influence on intentions: descriptive norms = PBC > injunctive norms > attitude). While hypotheses 2, 3, and 6 were supported in both countries, hypotheses 1, 4, and 5 were partially supported which illustrates significant differences between countries regarding consumers' perception of buying organic cotton apparel.

Multigroup SEM results are presented in Table 5. There was a significant difference in the chi-square statistics between the unconstrained and constrained model:  $\Delta\chi^2_{df=20} = 85.17$ ,  $p < 0.001$ ; the overall difference test suggested that the causal paths in the structural model differed. Significant differences in the chi-square were found in two structural paths: attitude  $\rightarrow$  purchase intentions ( $p < 0.001$ ) and descriptive norms  $\rightarrow$  PBC ( $p = 0.01$ ). The path from attitude to purchase intentions was significantly stronger in the U.S.A. group ( $\beta = 0.50$ ,  $p < 0.001$ ) compared to the South Korea group ( $\beta = 0.09$ ,  $p = 0.21$ ). On the other hand, the path from descriptive norms to PBC was significantly stronger in the South Korea group ( $\beta = 0.67$ ,  $p < 0.001$ ) compared to the U.S.A. group ( $\beta = 0.25$ ,  $p = 0.005$ ). According to the results, hypothesis 7 was partially supported.

**Table 2.** Result of the measurement model for the two groups.

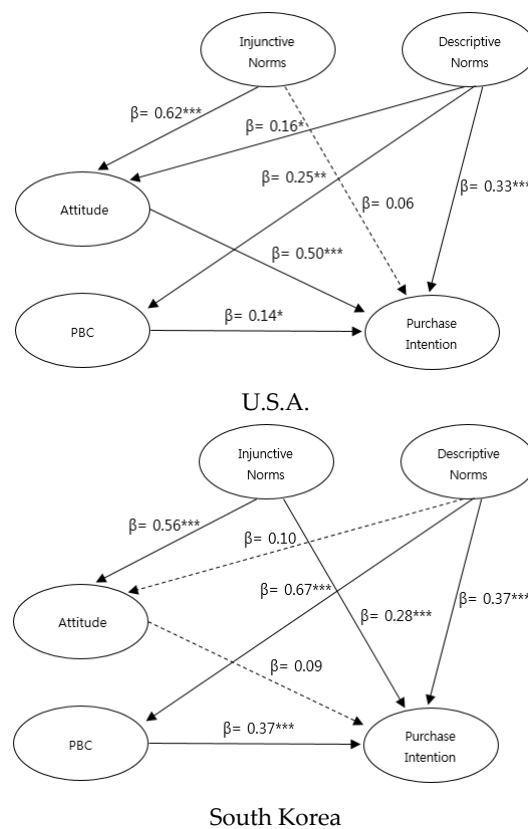
Construct	Items	U.S.A.			Korea				
		Factor Loadings	$\alpha$	Composite Reliability	AVE	Factor Loadings	$\alpha$	Composite Reliability	AVE
Attitude			0.94	0.94	0.75		0.94	0.94	0.74
	For me buying organic cotton apparel would be:								
	Negative/Positive	0.85				0.70			
	Unpleasant/Pleasant	0.81				0.83			
	Foolish/Wise	0.89				0.90			
	A bad idea/A good idea	0.93				0.93			
	Undesirable/Desirable	0.86				0.93			
Injunctive norms			0.88	0.88	0.72		0.92	0.92	0.79
	People who influence my decisions would approve of me buying organic cotton apparel.	0.83				0.80			
	People who are important in my life would approve of me buying organic cotton apparel.	0.88				0.92			
	Close friends and family think it is a good idea for me to purchase organic cotton apparel.	0.83				0.94			
Descriptive norms			0.88	0.88	0.72		0.77	0.79	0.60
	How many of the people who are important to you would buy organic cotton apparel in the near future?	0.90				0.61			
	What proportion of the people who are important to you buy organic cotton apparel?	0.89				0.70			
	How likely is it that people who are important to you buy organic cotton apparel?	0.76				0.92			
PBC			0.92	0.92	0.74		0.86	0.88	0.64
	I believe that I have the resources and the ability to purchase organic cotton apparel.	0.93				0.91			
	I do not face high barriers in purchasing organic cotton apparel.	0.85				0.73			
	If I wanted to, I could easily buy organic cotton apparel.	0.90				0.63			
	How much control do you think you have over purchasing organic cotton apparel in the near future?	0.77				0.89			
Purchase intentions			0.92	0.92	0.80		0.90	0.90	0.76
	I would like to purchase organic cotton apparel in the future.	0.87				0.77			
	If I see organic cotton apparel, I intend to purchase or consider purchasing it.	0.86				0.94			
	If I see a retail store selling organic cotton apparel, I intend to visit the store to purchase a product.	0.95				0.90			



**Table 3.** Measurement model: correlations between latent variables.

	U.S.A. (N = 164)					South Korea (N = 170)				
	1	2	3	4	5	1	2	3	4	5
1. Attitude	0.75	0.44	0.14	0.08	0.45	0.74	0.34	0.06	0.13	0.21
2. Injunctive norms	0.66	0.72	0.18	0.05	0.28	0.58	0.79	0.11	0.15	0.32
3. Descriptive norms	0.38	0.43	0.72	0.06	0.31	0.24	0.33	0.60	0.42	0.44
4. PBC	0.29	0.22	0.24	0.74	0.13	0.36	0.39	0.65	0.64	0.46
5. Purchase intentions	0.67	0.53	0.56	0.36	0.80	0.46	0.57	0.66	0.68	0.76

Note: Numbers below the diagonal are correlation values, diagonal elements are AVEs, and numbers above the diagonal are squared correlation.



**Figure 2.** Summary of structural equation modeling (SEM) results. Note. All values are standardized estimates. Significant effect  $\longrightarrow$ , no effect  $\dashrightarrow$ ,  $*** p < 0.001$ ,  $** p < 0.01$ ,  $* p < 0.05$ .

**Table 4.** Comparison of path coefficients.

	U.S.A.		South Korea	
	$\beta$	p-Value	$\beta$	p-Value
H1: Attitude → Purchase Intentions	0.50 ***	<0.001	0.09	0.21
H2: PBC → Purchase Intentions	0.14 *	0.03	0.37 ***	<0.001
H3: Injunctive norms → Attitude	0.62 ***	<0.001	0.56 ***	<0.001
H4: Descriptive norms → Attitude	0.16*	0.02	0.10	0.16
H5: Injunctive norms → Purchase Intentions	0.06	0.48	0.28 ***	<0.001
H6: Descriptive norms → Purchase Intentions	0.33 ***	<0.001	0.37 ***	<0.001
Descriptive norms → PBC	0.25 **	0.005	0.67 ***	<0.001

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Table 5. Multigroup SEM Results.

Model	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	p-Value
Unconstrained	540.03	240			
Full-constrained	625.20	260			
			85.17	20	<0.001 ***
Constraint on:					
Attitude → Purchase Intentions	559.77	241	19.73	1	<0.001 ***
PBC → Purchase Intentions	542.87	241	2.83	1	0.09
Injunctive norms → Attitude	540.07	241	0.04	1	0.85
Descriptive norms → Attitude	540.24	241	0.21	1	0.65
Injunctive norms → Purchase Intentions	541.59	241	1.56	1	0.21
Descriptive norms → Purchase Intentions	540.49	241	0.45	1	0.50
Descriptive norms → PBC	546.75	241	6.72	1	0.01 *

Note: \*  $p < 0.05$ , \*\*\*  $p < 0.001$ .

## 5. Discussion

This study examined consumers from distinct cultural groups to explore similarities and differences in their green purchase behaviors. A theoretical model based on the theory of planned behavior was tested to see the influence of TPB constructs on consumers' intentions to purchase organic cotton apparel. Majority of the TPB studies in this domain are focused on Western consumers and there is a lack of studies comparing consumer behaviors in different cultural settings, thus making it difficult to generalize study results to a broader group of consumer segments. The current study attempted to address this gap in the literature by comparing consumers from the U.S.A. and South Korea which represent individualistic and collectivistic culture respectively.

Both similarities and differences were found in the two cultural groups. In terms of similarities, PBC and descriptive norms were strong predictors of consumers' intentions to purchase and injunctive norms were a strong predictor of attitude in both countries. However, the major difference was that South Koreans were more affected by the social pressure: their purchase intentions were strongly influenced by both injunctive norms and descriptive norms which was in contrast to the findings from American consumers. Injunctive norms were an insignificant predictor of purchase intentions in the U.S.A. group. Consistent with previous studies [19,20], the findings highlight the need to discriminate between two types of social norms (i.e., injunctive and descriptive norms), as injunctive norms alone may not have a major impact on consumers purchase decisions in certain cultures. Injunctive norms reflect individual's perception of whether the behavior is approved or disapproved by others while descriptive norms involve individual's perception of whether the behavior is actually performed by others. These findings imply that both American and Korean consumers are more likely to purchase organic cotton apparel when they see others purchasing the product. However, Korean consumers' purchase is also strongly influenced by the social approval. Others' opinion about the purchase would be crucial to them, that is, when they perceive that others believe it is desirable to purchase organic cotton apparel, they will feel more inclined to purchase the product themselves. Descriptive norms exerted a particularly strong effect on Korean consumers' behavior toward organic cotton apparel. Not only did it have the strongest effect on purchase intentions, it also had a direct and strong effect on PBC, which means that purchasing behaviors of others influence individual's perception of ease/difficulty of buying the product. When a consumer perceives that significant others are purchasing organic cotton apparel, he/she is more likely to face less barriers in purchasing the product. This result is in line with previous research that suggests conformity is a crucial factor for people belonging to a collectivistic culture (e.g., [32,34]). Therefore, exposure of others' purchasing behavior is particularly important in motivating consumers' buying in collectivistic culture. Marketers of organic cotton apparel may consider using diverse formats of media to display consumers' ethical buying behaviors or creating product design or packaging that can directly reveal the ethical features of the product to display greater exposure in the market.

The findings from this study were also similar to previous studies that examined determinants of ethical behaviors [24,47]. They found that injunctive norms had a stronger effect in triggering positive attitudes, whereas descriptive norms are more effective in motivating behavioral intentions.

One major difference between the findings from the U.S.A. and South Korea was the effect of attitude on purchase intentions of organic cotton apparel; while attitude was the strongest predictor of American consumers' purchase intentions, it had an insignificant effect on Korean consumers' purchase intentions. Therefore, forming positive attitudes towards purchase of organic cotton apparel is extremely important to motivate their buying for American consumers. Based on the findings from this study, the most effective way to form positive attitudes would be to increase injunctive norms related to organic cotton apparel. Thus, creating marketing strategies that highlight the positive social viewpoints and delivering more information on environmental and social benefits associated with the product purchase would be helpful in encouraging purchase behaviors.

## 6. Limitations

Items that measure TPB constructs in this study were based on Ajzen's (the creator of TPB) suggestions and previous consumer studies that incorporated the theory and tested the relationships between attitude, norms, PBC, and behavioral intentions. Ajzen mentioned in his guidelines of using TPB that ensuring high internal consistency in TPB measures is important. "This is a minimal requirement to confirm the assumption that the items selected do in fact assess the same underlying construct. Each item is, by itself, designed to be a direct measure of the theoretical construct, and the different items used to assess the same construct should correlate with each other and exhibit high internal consistency." [48] (p. 8). Internal consistencies of several measures in this study were very high, for example, Cronbach alpha of attitude was 0.94 in both samples and it was 0.92 for PBC and purchase intentions in the U.S.A. sample which imply that some items may overlap in their meaning and reflect duplication of content [49]. Streiner recommended a maximum Cronbach alpha value of 0.90 because extremely high values indicate redundancy in items [50]. Future studies may consider developing improved measures that tap various aspects of each TPB construct and thus improve the content validity.

This study focused on young consumers of the U.S.A. and South Korea, which may have controlled the potential problem of inequality in age groups between the two samples. However, at the same time, the narrow sampling may underrepresent consumers of each country that can limit generalizations of the study findings. For future studies, it would be interesting to recruit samples of which demographic characteristics such as age, income, and education level can be representative of the population. Moreover, collecting further information on respondent's psychographic characteristics that reflect their opinions and values related to green purchase would be informative to provide a better understanding on cross-cultural differences between countries and buying behaviors.

In addition, the current study is subject to social desirability bias which indicates the tendency of respondents to give socially desirable answers rather than selecting answers that truly reflect their attitudes or behaviors. Future studies that employ self-report measures to examine green apparel purchase behaviors may use other methods that can reduce this bias. For example, a useful technique often adopted in research to mitigate social desirability bias is indirect questioning which involves asking respondents questions that can be answered from the perspective of others (e.g., asking questions about how "a consumer" will behave in a certain situation) [51]. This method allows individuals to express "their own feelings behind a facade of impersonality" [52] (p. 586).

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