

## Why U.S. Consumers Buy Sustainable Cotton Made Collegiate Apparel? A Study of the Key Determinants

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*Introduction and Literature Review.* Businesses need to assess where and how their materials and products are grown and made to be sure it meets expected quality and ethical standards. The cotton growing and manufacturing industry can reduce the water, energy and chemical (WEC) footprint by at least 50% by adopting modern technologies for more sustainably grown and produced cotton (Cotton Inc., 2018). Sustainable cotton is cotton produced by the practices that support economical and profitable growth while helping minimize environmental impact (Cotton Inc., 2016; Radhakrishnan, 2017). Ellis et al. (2012) found that U.S. consumers are willing to pay up to 25% premium for organic cotton made t-shirts over t-shirts made from conventional cotton. This finding supports the idea that consumers will be willing to pay more for sustainable cotton made apparel that shows business opportunity in new markets.

Among the growing interest in use of sustainable cotton, research on the U.S. consumer willingness to buy sustainable cotton made collegiate apparel has not yet been done. U.S. collegiate apparel is a \$4 billion market in which cotton made of conventional processes and polyester currently account for over 85% of materials used (IBISWorld, 2018). Sustainable cotton made collegiate apparel offers a new apparel market for sustainable cotton to enter and replace conventional cotton and polyester for environmental protection. In order to address the gap in the literature, this study aimed to provide insights on why U.S. consumers buy sustainable cotton made collegiate apparel. In specific, the objectives of this research are fourfold. First, building on the Theory of Planned Behavior (TPB), an enhanced consumer willingness to buy (WTB) sustainable cotton made collegiate apparel is proposed. Second, the psychometric properties of the proposed model are tested using the gathered survey data. Third, the effects of significant factors on U.S. consumer willingness to buy sustainable cotton made collegiate apparel are determined. Finally, some marketing strategies are proposed for industrial practitioners. The figure 1 illustrates the developed model with the proposed hypotheses.

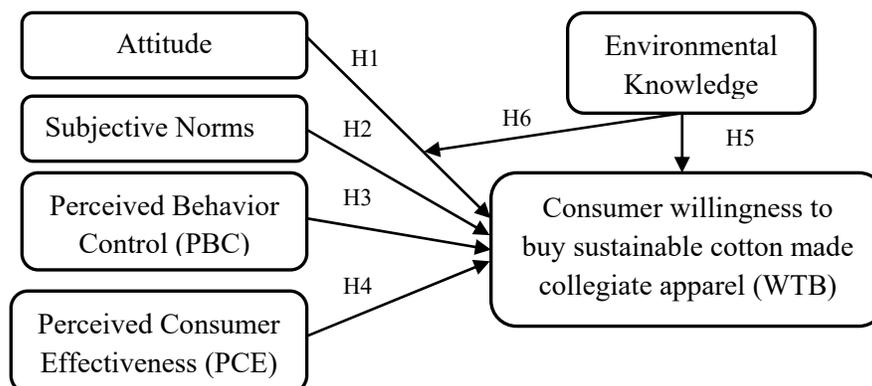


Figure 1. The Proposed Research Model

*Methodology.* The measures and scales for attitude, subjective norms, PBC, PCE, environmental knowledge and WTB were adapted from prior relevant studies (Barbarossa & De Pelsmacker, 2016; Gam et al., 2010; Nam et al., 2017; Nilsson, 2008; Zhang & Chi, 2015). The demographic variables including gender, ethnicity, age, income and education were included as control factors. The definition of sustainable cotton was provided at the very beginning of the survey. The survey instrument was pre-tested with five U.S. consumers regarding arrangement, wording accuracy and relevance and then finalized for main data collection in the U.S. via Amazon Mechanical Turk. 225 eligible responses were gathered for data analysis and hypothesis testing. Unidimensionality, reliability, and validity of the investigated constructs were first tested for proving model adequacy. The statistical assumptions including multivariate normality, multicollinearity, and correlations were examined. Multiple regression method was applied for determining the proposed statistical relationships (hypotheses) using SPSS 24.

*Findings and Discussion.* Table 1 presents the testing results of all the hypotheses. The U.S. consumers' willingness to buy sustainable cotton made collegiate apparel are significantly affected by consumers' attitudes toward this type of apparel, subjective norms, consumers' environmental knowledge, and perceived consumer effectiveness on environmental protection. Perceived behavioral control, moderating effect of environmental knowledge on the relationship of attitude-willingness to buy sustainable cotton made collegiate apparel, and all demographic variables are not statistically significant. Therefore, H1, H2, H4, and H5 are supported while H3 and H6 are rejected. The proposed model shows a good explanatory power, accounting for 44.7% of the variance of U.S. consumers' willingness to buy sustainable cotton made collegiate apparel. Companies should develop marketing strategies to educate consumers with environmental knowledge and promote their favorable attitudes sustainable cotton. Marketing campaigns should emphasize the fact that it is possible to alleviate the environmental deteriorations through individual's sustainable consumption behavior.

Table 1. Results of Hypothesis Testing

Hyp.	DV	IDV	Std. Coef. ( $\beta$ )	t-value	Sig. at $p < 0.05$	Control variable	Std. Coef. ( $\beta$ )	t-value	Sig. at $p < 0.05$	Total $R^2$	Sig. at $p < 0.05$
	WTB	Constant	-	.156	.876	Age	-.087	-1.639	.103	.447	<.001
H1	Y	AT	.482	2.680	.008	Gender	-.023	-.436	.663	F= 15.64 (11/213)	
H2	Y	SN	.194	3.475	.001	Ethnicity	-.086	-1.610	.109		
H3	N	PBC	.053	.929	.354	Education	-.040	-.741	.459		
H4	Y	PCE	.244	4.218	<.001	Income	-.002	-.037	.971		
H5	Y	EK	.290	2.129	.034						
H6	N	AT*EK	-.250	-1.010	.314						

Note: Y- Hypothesis supported; N- Hypothesis not supported; WTB=willingness to buy, AT=attitude, SN=subjective norms, PBC=perceived behavioral control, PCE=perceived consumer effectiveness, EK=environmental knowledge. AT\*EK: moderator. Std. Coef.=Standardized Coefficients, DV: Dependent variable. IDV: Independent variable.

**References**

- Barbarossa, C., & De Pelsmacker, P. (2016). Positive and negative antecedents of purchasing eco-friendly products: A comparison between green and non-green consumers. *Journal of Business Ethics*, 134(2), 229-247.
- Cotton Inc. (2016). 2016 Life Cycle inventory & life cycle assessment of cotton fiber & fabric. Retrieved January 10, 2018, from <http://cottontoday.cottoninc.com/wp-content/uploads/2017/01/2016-LCA-Summary.pdf>.
- Cotton Inc. (2018). A world of ideas technologies for sustainable cotton manufacturing. Retrieved February 11, 2018, from [https://www.cottonworks.com/wp-content/uploads/2017/11/A\\_WORLD\\_OF\\_IDEAS\\_1.pdf](https://www.cottonworks.com/wp-content/uploads/2017/11/A_WORLD_OF_IDEAS_1.pdf).
- Ellis, J., Mccracken, V., & Skuza, N. (2012). Insights into willingness to pay for organic cotton apparel. *Journal of Fashion Marketing and Management: An International Journal*, 16(3), 290-305.
- Gam, H. J., Cao, H., Farr, C., & Kang, M. (2010). Quest for the eco-apparel market: a study of mothers' willingness to purchase organic cotton clothing for their children. *International Journal of Consumer Studies*, 34(6), 648-656.
- IBISWorld. (2018). Athletic & Sporting Goods Manufacturing - US Market Research Report. Retrieved March 10, 2018 from <https://www.ibisworld.com/industry-trends/market-research-reports/manufacturing/miscellaneous/athletic-sporting-goods-manufacturing.html>.
- Ko, S. B. & Jin, B., (2017). Predictors of purchase intention toward green apparel products: A cross-cultural investigation in the USA and China. *Journal of Fashion Marketing and Management: An International Journal*, 21(1), 70-87
- Nam, C., Dong, H., & Lee, Y. (2017). Factors influencing consumers' purchase intention of green sportswear. *Fashion and Textiles*, 4(1), 1-17.
- Nilsson, J. (2008). Investment with a conscience: examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behavior. *Journal of Business Ethics*, 83(2), 307-325.
- Radhakrishnan, S. (2017). Sustainable cotton production. *Sustainable Fibres and Textiles*, 21-67.
- Zheng, Y., & Chi, T. (2015). Factors influencing purchase intention towards environmentally friendly apparel: an empirical study of US consumers. *International Journal of Fashion Design, Technology and Education*, 8(2), 68-77.