



## Exploring Sustainability Attributes of Perception among Different Consumer Groups for Green Sportswear

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Around the globe, the growing popularity of sustainability forces apparel companies to become more aware of the importance of creating green (or sustainable) apparel products. These companies have been making increasing efforts to integrate sustainability practices in their apparel product lines to meet their consumer's demands. Previous studies have investigated a gap between consumers' perceptions and expectations of green products, in general, and their purchasing behaviors regarding these products (e.g., Tseng & Hung, 2013); however, little research exists on how different sustainability attributes of perception act among different consumers' groups when perceiving green products. For this study, we focused on a specific product category, green sportswear made of eco-friendly materials that use alternative textile fibers. This study aims to explore consumers' perceptions for the use of green sportswear, especially by examining the role of each sustainability attribute of perception among different consumer groups.

An online survey was conducted with a nationwide convenience sample of U.S. consumers purchased from a reliable market service company. A total of 542 usable responses were obtained and used for data analyses. The survey questionnaire consisted of demographic information, open-ended questions (e.g., participants' own definition of sustainability and green sportswear), and close-ended questions on the perception of green sportswear using a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7). The variable, perception, adapted from Tseng and Hung (2013) was modified for this study, including 11 measurement items within three sub-dimensions (tangibility, assurance, reliability) (see Figure 1). It measures consumers' perceptions related to sustainability attributes due to environmental performance of products.

A content analysis was used for the qualitative data to identify recurring themes using coding criteria grounded in environmental, social, and economic dimensions of sustainability. The quantitative data were analyzed using SPSS 21 to perform basic descriptive statistics and one-way ANOVA with Tukey's post-hoc test to examine significant differences among three consumer groups in three sub-dimensions and 11 sustainability attributes of perception. Three groups used for data analyses were: G1 non-green product users ( $N_{G1}=134$ ), G2 general green product users except green sportswear users ( $N_{G2}=354$ ), and G3 green sportswear users ( $N_{G3}=54$ ). The participants' ages ranged from 18 to 74 years with a mean age of 33. About 53% of the participants were females and 47% were males. The majority was White/European American (75.3%) and approximately 90% of the participants obtained at least college degree.

The results of the qualitative analysis demonstrated that the participants in all three

groups connected the term “sustainability” more with environmental than economic or social dimensions. Both G2 and G3 associated the term “green sportswear” more closely with the environmental dimension of sustainability than G1. This can be interpreted as all participants lack a comprehensive understanding of sustainability at some degree. However, green sportswear and general green product users more deeply consider the attributes of durability, eco-friendliness, environmental impact, and functional performance regarding green sportswear than general green product users.

The results of one-way ANOVA showed a statistically significant difference among three groups for two sub-dimensions of perception: tangibility ( $F=5.08, p=.01$ ) and reliability ( $F=3.60, p=.03$ ). As shown in Figure 1, G1 had the lowest mean scores in every attributes of perception,

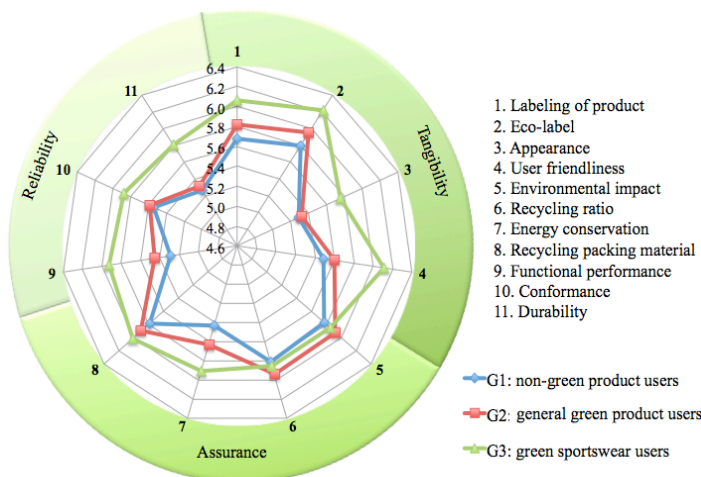


Figure 1. Means of 11 sustainability attributes of perception

whereas G3 had the highest mean scores of these attributes, in general. The following attributes had significant mean differences (MD) among three groups: user friendliness ( $MD_{G1G3}=.63; MD_{G2G3}=.51$ ), functional performance ( $MD_{G1G3}=.64; MD_{G2G3}=.47$ ), and durability ( $MD_{G1G3}=.55; MD_{G2G3}=.50$ ). This finding can be interpreted as both G1 and G2 who did not have any experience of wearing green apparel perceived green sportswear less user friendly, less functionally performed, and less durable than G3. Eco-label ( $MD_{G1G3}=.42$ ) and energy conservation ( $MD_{G1G3}=.48$ ) had significant mean

differences between G1 and G3. Non-green product users had lower awareness of eco-label and energy conservation regarding green sportswear than green sportswear users.

This study provides practical implications for green sportswear providers to focus more on product tangibility (e.g., eco-label) as well as product reliability (e.g., functional performance, durability) when developing green apparel products. Green sportswear manufacturers need to educate non-green product consumers for the sustainability practices apparel companies perform (e.g., efficient energy use) in a visible way. It is also recommended for sportswear companies to closely engage with consumers who are not currently green apparel users by providing consumer experience campaigns toward sustainable apparel. Further research is suggested to examine differences in sustainability attributes of perception among the variety of green products and their relationships with demographic variables (e.g., age, gender, ethnicity).

**References**

Tseng, S. C., & Hung, S. W. (2013). A framework identifying the gaps between customers’ expectations and their perceptions in green products. *Journal of Cleaner Production*, 59, 174-184.