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Sustainable Fashion: Transformable Outerwear and Shopping Orientation

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Fashion is one of the largest industries, and textiles are one of the top ten disposed-of materials in the United States (U.S. Environmental Protection Agency, 2012). Among various design methods for sustainable clothing, transformable garments can be sustainable due to their versatile designs and functions in various use contexts. However, there is limited research on consumers’ design preferences for transformable outerwear, which is one of the major clothing items worn by consumers of all ages and genders. Framed by fashion adoption theory (Sproles, 1979), the purpose of this research was to investigate preferences for transformable outerwear and their differences per consumers’ characteristics, including shopping orientations. The results are expected to be beneficial for designers and manufactures in the development process of transformable clothing for sustainability.

The data were collected from a convenience sample of 273 U.S. consumers who were recruited through an independent online survey forum. The online questionnaire consisted of self-developed or modified items from the literature measuring consumers’ shopping orientations (Shim & Kotsiopulos, 1993), consumption behavior toward socially responsible apparel (Gam, 2011), preferences about transformable design options for outerwear, expected benefits, and expectations for transformable garments for sustainability (Koo, Dunne & Bye, 2014; Koo & Ma, 2016). The items were measured on a 7-point Likert scale, with 1 being strongly disagree and 7 being strongly agree. Using SPSS 23.0, the data were analyzed through descriptive analysis, Cronbach’s alpha, k-means cluster analysis, and a series of independent samples t-tests.

The mean age of participants was 35, with a range from 18 to 78. About 60% were female (n=165) and 40% were male (n=108). In order to group participants by their shopping orientation, a K-means cluster analysis was performed. High and low groups in two categories, fashion-consciousness (FC; \( n_{high}=149, m_{high}=5.74; n_{low}=117, m_{low}=4.13; t=20.49, p<.001 \)) and economic/price consciousness (EPC; \( n_{high}=183, m_{high}=5.14; n_{low}=89, m_{low}=4.79; t=2.76, p<.01 \)), were confirmed in their difference on those shopping orientations using independent samples t-tests. Consumers’ apparel consumption behaviors and purchase intentions associated with socially responsible apparel products were significantly different across groups. Those who were more FC showed greater tendency to demonstrate socially responsible apparel consumption (\( m_{high}=4.04, m_{low}=3.39; t=4.04, p<.001 \)) and greater purchase intention (\( m_{high}=5.26, m_{low}=4.62; t=3.74, p<.001 \)) than those who were less FC, thus supporting Gam’s study (2011). A similar pattern was observed with the EPC shopping orientation regarding both socially responsible
apparel consumption ($m_{\text{high}}=3.88$, $m_{\text{low}}=3.49$; $t=2.26$, $p<.05$) and purchase intention ($m_{\text{high}}=5.21$, $m_{\text{low}}=4.55$; $t=3.67$, $p<.001$). This finding is somewhat different from Gam’s (2011) study, suggesting that cost-consciousness is negatively associated with purchase intention for sustainable apparel products. However, transformable clothing is a good way to expand the lifecycle of clothing by meeting consumer demands through changing designs and/or functions, which may appeal to consumers with high EPC. Preferred sustainable apparel designs were also significantly different between high and low groups within both FC and EPC groups. Top-ranked preferred sustainable apparel designs were transformable garments for both FC ($m_{\text{high}}=4.82$, $m_{\text{low}}=4.15$, $t=3.34$, $p<.005$) and EPC ($m_{\text{high}}=4.75$, $m_{\text{low}}=4.11$, $t=3.01$, $p<.005$) groups, followed by garments made of organic or environmentally friendly materials for both groups (FC: $m_{\text{high}}=4.59$, $m_{\text{low}}=3.94$, $t=3.28$, $p<.005$; and EPC: $m_{\text{high}}=4.54$, $m_{\text{low}}=3.79$, $t=3.65$, $p<.001$). Next, three benefits of wearing/purchasing transformable garments (i.e., functional, hedonic, and social benefits) had different responses in the FC group (functional: $m_{\text{high}}=5.47$, $m_{\text{low}}=4.80$, $t=4.37$, $p<.001$; hedonic: $m_{\text{high}}=5.22$, $m_{\text{low}}=4.61$, $t=3.64$, $p<.001$; and social $m_{\text{high}}=4.56$, $m_{\text{low}}=3.96$, $t=3.78$, $p<.001$) and the EPC group (functional: $m_{\text{high}}=5.43$, $m_{\text{low}}=4.63$, $t=4.96$, $p<.001$; hedonic: $m_{\text{high}}=5.11$, $m_{\text{low}}=4.67$, $t=2.58$, $p<.05$; and social: $m_{\text{high}}=4.47$, $m_{\text{low}}=3.93$, $t=3.45$, $p<.005$). Overall, color/pattern ($m=5.21$), sleeve length ($m=5.06$), size/fit ($m=4.88$), sleeve fit ($m=4.68$), and ability to transform into a different item ($m=4.62$) were highly preferred features for transformable outerwear. Specifically, the high FC group demonstrated greater preference than the low FC group for transformable features on everything except for sleeve fit, with $t$-values from 2.43 to 2.72. Similarly, color/pattern ($t=3.22$, $p<.01$), sleeve length ($t=2.26$, $p<.05$), and size/fit ($t=2.90$, $p<.01$) were more preferred among the high EPC group than the low EPC group. Lastly, the high FC group had greater expectations than the low FC group for transformable garments for sustainability ($m_{\text{high}}=4.65$, $m_{\text{low}}=4.01$, $t=3.51$, $p<.005$), which was also true for the high EPC and low EPC groups ($m_{\text{high}}=4.63$, $m_{\text{low}}=3.86$, $t=4.31$, $p<.001$). Transformable outerwear could be targeted for highly fashion-forward and economic/price-conscious consumers.