

Potential of Extending Lifespan of Prom Dresses

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Sustainable clothes can be designed through innovation, technology, and the application of greener design and manufacturing techniques (Strauss & Fraud-Luke, 2008). Prevention and minimization have been suggested as the most favored waste management options. By lengthening the clothing lifespan and reducing waste with the assistance of design processes and production planning, consumers can have more sustainable fashion (Loker, 2008). Among various sustainable clothing design strategies, transformable design can encourage people to adopt sustainable fashion behaviors; a versatile garment can be worn in many ways (Fletcher, 2008). Clothing that can transform to meet consumers' needs and wants can lead to consumers purchasing fewer garments (Farrer, 2011). Traditional ball gowns are worn at special events such as weddings, high school proms, and other formal occasions. Many of these gowns are worn only once and then stored in a closet space for a long period. Therefore, the purpose of this research was to investigate consumers' expectations and preferences regarding changeable design functions of transformable prom dresses in order to expand the lifecycle of the clothing. In particular, the relationship of consumers' shopping orientations with their perceived reasons for the limited use on prom dresses, importance of design and functional aspects of prom dresses, and preferred design factors in transformable dresses were explored.

Data were collected from female college student consumers who had purchased at least one prom dress using convenience sampling. A self-administered online survey measured a) fashion behavior in relation to prom dresses; b) shopping orientations focusing on *confident/appearance and fashion-conscious* (CAFC), *economic/price conscious* (EPC), and *convenience/time-conscious* (CTC) (Shim & Kotsiopulos, 1993); c) perceived importance of prom dresses' design and functional elements; d) perceived reasons for prom dresses' limited use; e) perceived importance of the design elements of transformable dress; f) purchase intention in relation to transformable dresses; and g) demographic characteristics. Responses from 289 female college students were returned, of which 256 were used for the data analysis after excluding responses from people who had not purchased a prom dress and an outlier who was aged 58 years old. The average age of the participants was 19.4 years old ranging from 18 to 29 years. About 74% of them were White or European American and 92% had monthly income less than \$1,000.

Results of exploratory factor analysis confirmed three shopping orientation factors, CAFC, EPC, and CTC as suggested by Shim and Kotsiopulos (1993), in that the participants were grouped into high and low groups on each shopping orientation for further analyses. The main reasons for the limited use on prom dresses include style/occasion (87.5%), dress length

(22.7%), size/fit (18.4%), and silhouette (17.6%). A series of chi-square tests revealed that there was a statistically significant difference only on dress length between high (27.5%) and low (17.1%) CAFC ($\chi^2=3.93, p < .05$). The high CAFC group considered all the design and functional elements more importantly than the low CAFC group (t -values = -2.31- -5.25, $p < .05, .01, \text{ or } .001$) except for ease of matching. Those who are more price-conscious are likely to concern design and function elements of prom dresses, including but not limited to size/fit, silhouette, color/pattern, price, each of care, comfort, and durability more than those who are less price-conscious when shopping for prom dresses (t -values = -2.72- -4.96, $p < .01, \text{ or } .001$). Interestingly, as per consumers' CTC, there were significant differences only on ease of use/wearability, ease of matching, and comfort between the high and low groups (t -values = -2.27- -2.88, $p < .05, \text{ or } .01$). The most popular transformable design elements were style/occasion (47.3%), color/pattern (42.2%), dress length (39.1%), silhouette (38.3%), and size/fit (36.3%). These elements were also highly preferred regardless of the consumers' shopping orientations, except for transformable dresses' silhouette between the high and low groups of CAFC ($\chi^2=5.36, p < .05$). According to a series of t -tests to compare the purchase intention between the two groups of each shopping orientation, there was a significant difference between the high and low groups only on EPC (t -value = -2.49, $p < .01$).

Overall, there were significant differences in reasons given by consumers for the limited use of prom dresses, their design and functional elements, their preferences in design elements of transformable dresses, and in their intention to purchase transformable dresses. This study describes the important design and functional elements that apparel designers and fashion business professionals need to consider for transformable prom dresses to meet consumers' expectations and preferences, which can enhance consumers' sustainable apparel consumption practices. The findings of this study are limited to prom dresses, thus it will be beneficial to study with other characteristics of consumers and investigate consumers' fashion behavior changes with transformable prom dress prototypes.

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