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Gender Comparison of Image Perception and Preferences for Spring • Summer Shirt Yarn-dyed Fabrics ⋆

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Abstract

The research proposes to extract data of male and female consumers' image perception and preferences in yarn-dyed fabrics for spring· and summer shirts. The Semantic Differential (SD) evaluation on representative fabric samples by two groups of subjects was accomplished following the standardized sensory evaluation procedures. The differences in terms of image perception in yarn-dyed fabrics between male and female subjects was identified through Levene homogeneity variance test and independent samples T-test, and the evaluation factors of subjects' image perception was classified into 6 factors through factor analysis. The relationships between image word-pairs and subjects' preferences were validated with regression analysis. Experiment results show an evident difference in terms of image perceptions, preferences and the factors affecting preferences of the yarn-dyed fabrics between male and female subjects. The quantitative data could consequently provide guidance to help designing and producing differentiated yarn-dyed fabrics for designated sex consumers.

Keywords: Yarn-dyed Fabric; Gender; Image Perception; Preference; Factor Analysis

1 Introduction

Yarn-dyed fabric usually refers to the fabric made of different colored threads in warp and weft, and it is different from the traditional dyed or printed fabric. Different yarn-dyed fabric appearance may be obtained with different color yarn arrangement and weave pattern [1]. Since the yarn-dyed fabric has the characteristic of using the arrangement of variously colored warp and weft threads to build a pattern on the fabric's surface, one partitioned region always has continuous warp and weft features in the directions of the warp and weft threads, and the areas occupying on the fabric's surface vary [2]. Due to its mixed color effect, special pattern and stereo appearance that serve to satisfy the aesthetic needs of customers who pursue various, strong identities, yarn-dyed fabric is loved by consumers in many counties.

In real life, consumers tend to choose yarn-dyed fabrics according to their sensory evaluation, and the current trend in product design has shifted from functionalism (form follows function) to

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product semantics (form follows meaning). Many researchers have reported that image perception acts as a leading factor in consumer needs, and subjective properties have become a major part in consumer preferences for apparel products. Thus, sensory features on comprehensive beauty and quality through tactile sensation and visual inspection of fabrics should be explored to comprehend consumers' feeling and improve quality of textile products.

In order to measure the psychological feeling of a product, user involvement in the design process is necessary. Different user centered design techniques have been used for different applications, but the most widespread technique is Kansei Engineering. Kansei engineering is an ergonomic consumer-oriented technology which translates a consumer's feeling of the product to the design elements [3]. It combines the perceptual information from users and product design elements effectively in order to design the product that reflects user's emotion needs and meet user's preferences [4] Kansei engineering is very useful in areas such as fabric design, where emotional impressions can explain a significant part of the variance associated with the purchase decision.

Over the years, many studies on the fabric perception have been carried out by using Kansei engineering technology. Brand defined the fabric aesthetic character as a relationship among a minimum of six concepts: style, body, cover, surface texture, draper, and resilience [5]. Kweon et al. analyzed the subjective fabric hand of sleepwear fabrics, and found that sleepwear fabrics made with polyester had better tactile sensation than those made with cotton, while satin weave fabrics felt better than plain weave fabrics [6]. Hiroyuki et al. suggested that 'luster and depth sensation' and 'surface roughness sensation' were the principal factors of fabric aesthetics [7]. Chuang and Hung proposed the design suggestions which could be a ready reference for textile designers to design or select men's suit fabrics expressing specific images [8]. Speijers et al. indicated that while the sensory perception of next-to-skin garments worn during a range of environments and activities was similar for ethnic Chinese wearers and a matched control group of wearers, there were differences in the perception of garment comfort between groups that should be considered when testing and designing garments [9].

Males and females view the world from different perspectives and gender identity predicts consumer behavior in certain aspects [10]. Gender may play a more important role when examining consumers' shopping preference than market, company, or product determinants and thus understanding gender differences is essential to understand and predict consumer behaviors [11].

In previous literatures, gender and need for touch of clothing were discussed [12, 13]. However, only a few researchers have investigated the differences between men's and women's perception or preference of fashion or textiles. In addition, any research on the yarn-dyed fabric has been limited to approaches to detect fabric density, color regions or defects of yarn-dyed fabrics and consumers' perception images of yarn-dyed fabrics such as texture, style feeling and preference have hardly been addressed though fabric aesthetics is an essential element of fabric design. While there are increasing scholarly attentions toward gender preferences of design, little has been done to investigate gender differences of perception and preference for clothing or fabric.

To fill this gap, discussions were carried out around the sensory experiment on the most common yarn-dyed fabrics. In the experiment, male and female subjects were organized to evaluate the fabric samples about the image perception level by using SD method. The primary purposes of the study are: 1) to investigate the differences between male and female consumers in perceiving image perceptions of the yarn-dyed fabrics; 2) to extract evaluation factors of the yarn-dyed fabrics; 3) to determine the relationship between image perception and male and female subjects' preference; 4) if possible, to assist the development of yarn-dyed fabrics that can greatly satisfy