Explore the Critical Kansei Quality of Fashion Design

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Abstract. Facing global competitive market, designers are required to seek original essence from their own culture and build a unique cultural identity to increase their product value and competitiveness. To help designers build the Chinoiserie fashion, the consumers’ cognition and preference for Chinoise fashion design are discussed. To discover consumers’ “typicality effect” and emotion perception for Chinoiserie fashion, the in-depth survey based on interviews and questionnaires was conducted. Subsequently, Kansei engineering was used to delve into the different effects of emotion factors on Chinoiserie dress, and the critical emotions were identified to better understand consumer requirements and enhancing. This paper summarizes the factors (e.g., conventional, formal and gentle) in the evaluation of the design of the cheongsam dress. It is found that each design factor impacts the evaluation of Chinoiserie image to different extents. The results here suggest that there is indeed a different design factor classification relationship between each perceptual evaluation factor item and Chinese imagery. In the meantime, the various factors and the Chinese imagery charm display different emotion relationships. To help designers build the product of Chinoiserie style, the consumers’ cognition and preference for Chinoise fashion design were explored.

Introduction

In the modern fashion design, considerable clothing products are overly monotonous for Chinese conventional culture. Besides copying with the use of conventional elements, they also adopt the principle of “addition” and accumulate numerous useless design elements, resulting in a stale design. The Chinese element has turned into a simple design vassal, only making consumers feel alienated and unable to view the hearts of the people. Today, how to find a reasonable entry point and integrate Chinese style into fashion design is worth exploring.

Given Kansei engineering research, the present study explores the composition of Chinese-style imagery by a perceptual (image) survey to gain insights into the charm of Chinese-style clothing design. Here, sensible engineering was employed to investigate the relationship between sensory imagery and paradigm in Chinese style. Consumer-oriented perceptual engineering is defined as "a system transforming consumer product perception and image technology into design elements." To effectively increase the satisfaction of Chinese style clothing design, designers should understand the consumer's demand for Chinese imagery characteristics/attributes of clothing, elucidate the association between the quality and satisfaction of Chinese style attributes, and then figure out the Chinese clothing design. The glamour factor acts as a reference for the positioning and development of future Chinese style clothing design.

Research Method

This study primarily covers the stages of (1) identifying the emotional attributes of Chinese dress to consumers (2) exploring factors underlying these emotional attributes, and (3) exploring the
relationship between emotion attributes, typicality and consumer’s preference of Chinoiserie. Each stage is presented below:

**Selecting the Representative Design Samples**

The study complies with Chinese-style clothing design, stressing the style of Chinese dresses. The collection of test stimulus samples is a picture of Chinese-style clothing downloaded from the relevant internet. The following types are included: Top international brands; high-profile second-tier or third-tier brands; Online stores sell designer brands. 150 samples were initially collected. Subsequently, a focus group composed of 6 professionals with clothing design background was appointed to discuss the samples. Team members have knowledge of Chinese style clothing and related style concepts. This study aims to explore the relationship between the morphological characteristics of Chinese style clothing and the Emotion Attributes. To avoid the interference of color factors, the sample adopts black and white pictures as stimuli. Lastly, 19 representative samples were selected by the focus group as shown in the figure (Fig. 1).

![Figure 1. Representative samples of Chinoiserie dress designs.](image)

**Identifying the Representative Chinoiserie Emotions**

Given the results of the previous interviews, a focus group composed by 6 experts (members are the same as 3.1) was selected to discuss the emotional imagery traits of the stimuli samples, to discard inappropriate adjectives, as well as to select the final 9 groups. The adjective pair, an evaluation scale for the positive and negative quality of the sensory image attribute of the follow-up Chinese style dress, is listed in Table 3 of 4-1.

**Conducting the Questionnaire Survey**

60 subjects were recruited for the assessment. All 60 subjects were asked to assess the 19 samples of dresses on each of the 12 emotion attributes and the Chinoiserie typicality. The questionnaire survey primarily consisted of the Chinese style clothing emotional image evaluation survey and the test sample (Chinese dress) overall Chinese image satisfaction evaluation survey. The questionnaire adopted the 5-point Likert scale to assess the scale. The two ends of the measurement table are the nine pairs of adjectives with relative sensibility detected previously, and the midpoint is the neutral answer. For analysis, -2, -1, 0, 1, and 2 points were given from left to right. In the first part of the experiment, the subjects were asked what they think of or how they feel about how each design
performed in each of the 9 emotion attributes. The second part of the questionnaire asked subjects to report their overall image of Chinoiserie typicality and preference on the design using a 5-point Likert scale.

Result and Discussion

Analysis of Factors in Emotion Attributes Evaluation Chinoiserie dress

The exploratory factor analysis was conducted based on the built mean matrix of emotion attributes evaluations for the 19 dresses. The principal component analysis method was employed to extract the factors whose factor characteristic value is above 1. After the rotation of the varimax method (varimax), the factor loadings of the Chinese style dresses could be calculated in each factor, and the factors were summarized. As listed in Table 1, three major factors could be extracted through the emotion attribute evaluation results of the sample images. The first factor consists of sexy-conservative, innovative-conventional, lively-quiet, popular and individual. The four sets of adjective pairs of personality, these adjectives have conventional cognitive traits, termed as conventional factors; the second factor involves complex - concise, gorgeous - simple, casual - formal three sets of adjective pairs. These adjective pairs have formal cognitive traits, termed as formal factors. The third factor covers two adjective pairs: vulgar-elegant, masculine-gentle, known as gentle factor. These three factors were identified with the extracting criteria of an eigenvalue over 1. These three factors can take up 88.53% of total variance extracted (Table 1).

Table 1. Result of factor analysis using varimax rotation.

<table>
<thead>
<tr>
<th>Emotional Factor</th>
<th>Influential attribute</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional emotion</td>
<td>conservative</td>
<td>0.92</td>
<td>0.14</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>conventional</td>
<td>0.91</td>
<td>-0.10</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>quiet</td>
<td>0.91</td>
<td>-0.15</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td>individual</td>
<td>-0.75</td>
<td>-0.59</td>
<td>-0.15</td>
</tr>
<tr>
<td>Formal emotion</td>
<td>plain</td>
<td>0.36</td>
<td>0.89</td>
<td>-0.22</td>
</tr>
<tr>
<td></td>
<td>simple</td>
<td>-0.28</td>
<td>0.88</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>formal</td>
<td>0.08</td>
<td>-0.70</td>
<td>0.66</td>
</tr>
<tr>
<td>Gentle emotion</td>
<td>elegant</td>
<td>-0.06</td>
<td>-0.12</td>
<td>0.92</td>
</tr>
<tr>
<td></td>
<td>gentle</td>
<td>0.40</td>
<td>0.16</td>
<td>0.78</td>
</tr>
<tr>
<td>Percentage variance explained (%)</td>
<td>38.18</td>
<td>27.60</td>
<td>22.76</td>
<td></td>
</tr>
<tr>
<td>Accumulative percentage variance explained (%)</td>
<td>38.18</td>
<td>65.77</td>
<td>88.53</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 2 shows the spectrums of product designs for the high score group and the low score group on ‘Chinoiserie typicality’. The product No.15 with the highest level of typicality refers to the prototype of Chinoiserie design, and No.10 has the lowest level of typicality. Fig. 3 shows Chinoiserie design differences between the high and low score groups. The figure reveals a clear difference in the design style of the dress; the more the figure goes to the right (the more intense the Chinese style image is), the more the Chinese style sensuous image will be, and the closer it will be to the conventional cheongsam style. The fashion style on the left is largely based on the modified cheongsam. For instance, raise the split position, off the shoulder or change the collar. Further compare the factor scores of the high and low group samples. As listed in Table 5, the factor 1 and factor 3 score higher as the Chinese style emotional image score rose. There was no noticeable difference in factor 2.
The Relationship between Emotion Attributes and Chinoiserie Evaluations

To interpret the correlation between satisfaction evaluation of test samples and evaluation factors (three factors), a Multiple linear regression analysis was conducted. Given the analysis of 19 samples, the multiple regression equations of Emotional imagery of the Chinoiserie and factor scores were presented with the factor scores of three factors as independent variables and Chinoiserie emotional attributes as dependent variables, to delve into the significant influential factor items. The results are listed in Table 3.

Table 3. Relationship between effect factors and chinoiserie typicality.

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>Coefficients b</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>0.507</td>
<td>0.81</td>
<td>7.63</td>
<td>.000</td>
</tr>
<tr>
<td>Formal factor</td>
<td>-0.140</td>
<td>-0.22</td>
<td>-2.10</td>
<td>.053</td>
</tr>
<tr>
<td>Gentle factor</td>
<td>0.220</td>
<td>0.35</td>
<td>3.30</td>
<td>.005</td>
</tr>
</tbody>
</table>

R=0.911 R²=0.830 sig=0.000**

The normalization coefficient (Beta) in the analysis results denotes the correlation between the factor item and the Chinese sensible image evaluation. If the coefficient is positive, the positive sensibility can deepen the consumer's Chinese style sensibility image; while if it is negative, the negative quality project can improve the Chinese sensibility image; the absolute value of the coefficient implies the degree of correlation between the two. The larger the value, the more influential it will be. Table 3 reveals that the coefficient values of "conventional factor" (factor 1), formal factor (factor 2), and gentle factor (factor 3) are: 0.81, -0.22, and 0.35, respectively, where the significant values of the conventional factor and the gentle factor are lower than 0.05. This reveals that these two factor facets are the design factors that designers should stress for Chinese style clothing design, and they are also a vital factor affecting consumers' evaluation of Chinese style clothing. According to the normalized coefficient values of complex regression analysis, the "conventional factor" and "gentle factor" can help improve the Chinese image of consumers. The conventional factor is the most influential for the Chinese style sensibility evaluation of Chinese
dresses, that is, it is said that consumers' perceptions of Chinese-style clothing are more conventional and emotional. The design of the Chinoiserie dress is to emphasize the conventional beauty of Chinoiserie. It is not required to be too sexy. It should be introverted and quiet, not too personal. On the other hand, the Chinese style of clothing gives us the impression that it should be introverted and subtle, the gentle and elegant beauty, "gentle factor" is the secondary facet affecting the design of Chinese style clothing.

In contrast, the "formal factor" is less significant since it is noticeably lower than 0.053. Thus, the impact on the Chinese style is weaker than that of other facets. The analysis results revealed that conventional factors and gentle factors are critical factors affecting consumer Chinese style evaluation. It also acts as a design factor that designers should stress Chinese conventional style image features into Chinese style dress style and meaning coding.

Conclusion

Chinoiserie design has become a vital topic of discussion in the field of design. Most existing studies focused on style cognition, symbol design, interpretation and design procedures. Besides, there has been rare studies on the correlation between cultural attribute performance and consumer style cognition. Accordingly, this study complied with the Kansei engineering to delve into the different quality characteristics of product emotional image attribute performance and style cognition to elucidate the real needs of consumers for Chinoiserie fashion design.

The empirical results suggested the consumers’ typicality and influential attributes on Chinoiserie product. Factors (conventional, formal and gentle) underlying these influential attributes of Chinoiserie were explored. Conventional factors and gentle factors are critical factors affecting consumers' Chinese style evaluation. They are also the design factors that designers should stress Chinoiserie image features into Chinese dress and meaning coding. “Gentle” and “conventional” factors can induce Chinese style perception and enhance consumer preferences. Pearson's correlation analysis suggested that the typical style of Chinese style and the relationship between “gentle” and “conventional” factors are positive. These two factors are capable of enhancing the characteristics of Chinese style, forging unique identification for Chinoiserie clothing products, and creating perceptual Consumer culture experience, which can be adopted as a vital strategy and means for garment enterprises to increase their product value and gain more competitiveness.

Acknowledgments

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References


