

A Study on the Preference of Female Office Workers for the Color of Automobile Interior

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Abstract

With the evolvement of the era, females have more and more independent abilities of economy. Female drivers become a current trend so that it's hard to ignore the market for them. In a highly competitive automobile market, drivers usually spend much time in the car, so when purchasing cars, modern consumers not only consider dynamic performance, rein, energy saving and active passive safety integration, but also the style and the texture of the automobile interior design, which have distinctly important relation with the five senses. Among them, the color of automobile interior as a consumer's initial impression, it is easy to affect consumers' desire to buy. Female consumers' preference for the color of automobile interior is even more pronounced. Therefore, if the design of the color of automobile interior meets the needs of female consumers, it will make the female driver feel intimate and comfortable. It can also be used as a reference for the design of the automobile industry.

Key words: Female Office Workers, Lifestyle, Automobile Interior Color, Preference

1 Introduction

1.1 Research Background

With the transformation of social patterns, the proportion of female office workers has increased and women have seen a huge increase in purchasing power in the consumer market due to economic independence. In the highly competitive automobile market, modern consumers consider the performance of power performance, driving ability, energy saving and active and passive safety items when buying cars. When the driver is in the car room most of the time, the interior decoration design style and texture performance that coexist with it are extremely important compared with the correlation of five senses [1]. Among them, the automobile built in color as the initial impression of consumers into the car, it is easy to affect consumers' first impressions, and preferences of female consumers will be more apparent. Therefore, if the matching and design of car interior color can meet the needs of female users, female drivers will feel intimate and comfortable. It can also be used as a reference for the design of automobile industry.

1.2 Research Purpose

The purpose of this study is to explore the automobile interior color preferred by female office workers, in order to

summarize the female office workers' perception of car interior decoration, and to establish the color shape features preferred by female, so as to help female working group consumers to purchase cars in the future, and provide designers and the industry in the future development of new products in the design of reference direction. The purpose of this study is as follows:

1. Through literature collection and questionnaire survey, female office workers were investigated on their cognition of color perception image of automobile interior decoration.
2. According to the results of the questionnaire survey, this study analyzed the preferences of different categories of female office workers to the color of car interior decoration, and served as a reference for the follow-up study.

2 Related research

2.1 Automobile Interior and Color Research

2.1.1 The Importance of Automobile Interior

It is one of modern people's choice to take into consideration of automobile interior package, regardless of commuting, country trip and shopping, which are both driving and riding in the cabin, so the interior space is of considerable importance to the driver. What makes an automobile interior great is how well it aligns with the car's intended purpose. In a high-performance car, there shouldn't be any distractions or excess — nothing to take away from the task at hand or slow the car down. Conversely, a plush luxury car should be adorned with every creature comfort imaginable, to help the passengers forget the outside world as they're whisked away to their destination [2].

When designing automobiles, the interior design has become just as important as the exterior design. For the interior design, designers do not produce large numbers of image sketches like they do for the exterior. This is because a design will not be adopted if, for example, it impedes the operation of functions or the visibility of the meters [3].

2.1.2 Female's Demand for Automotive Interior

Since women rarely drive at speeds of more than 120km/h, the smaller passenger cars of less than 1600cc are the preferred choice for most women [4]. Women have different demand from men. Most female drivers have no great interest in mechanical structure. They pay more attention to details of the car, such as its shape, color and interior decoration [5]. Therefore, the comfort, beauty and practicality of the

automobile interior are more important for women.

2.1.3 Automobile Interior Color Research

Color is a very important part in automobile interior decoration, which can arouse consumers' psychological feelings. When they look with their eyes at the perceptual stage, they accumulate emotional attributes in their personal cultural experience through the color impression perceived by the sensory system [6].

Although individuals' color-related interests and preferences vary significantly, there are clear trends from the consumer perspective when viewed statistically. In addition to trends, consumers' color preferences also depend on cultural factors and the significance of a color may vary slightly in each market. Therefore, designers must select the most appealing colors based on an understanding of the market environment and trends, gained through a statistical interpretation of consumers' preferred colors [7, 8].

2.2 Correlational Research of Image

2.2.1 Product Image

Users accept the attributes of color, line, texture and shape of products, and form "image" in their mind through the reorganization and integration of self-subjective judgment and past experience. Therefore, the formation of product image is also the user's awareness of the product.

Product image refers to the intuitive association of users to the product. This kind of imagination is the reproduction of perceptual experience. The image of an object has three characteristics and will exist simultaneously [10]: (1) Self-realization: Any practical image must be an object with self-expressive features and can be distinguished. (2) Structure: Image is a form of object and is related to other objects. (3) Significance: Objects should have a realistic or emotional meaning.

2.2.2 Color Image

Color image is a kind of psychological cognitive result under the visual consciousness, which integrates the visual and psychological emotional perception factors, and then extends the identification result on behavior and attitude [11]. There are three important factors of color image: Evaluation, such as the beauty and ugliness, elegance and vulgarity; Activity, such as movement and stillness, brightness and obscurity; Potential, such as strong and weak, light and heavy, masculine and feminine [12]. Color will also produce different feeling images due to personal preference, personality and experience, and will be different due to gender, age and ethnicity [13]. The concept, judgment, preference and attitude of color are the contents of mood and feeling. In daily life, we often use various adjectives to express the image of things, and adjectives can often be used to correctly convey the characteristics of things or psychological feelings to people. For example, "fashionable" clothes, "elegant" restaurants, "romantic" dating, etc., and to convey the image of things, the expression of color is far more effective than the form [14].

2.3 Female Consumptive Attitude

In 2007, Fang-Yu Kuo put forward that the psychological characteristics of female consumption were the appearance, practicability, detail in design, creativity, and convenience of

goods for life, and that women were brave in pursuing self-value and personalized lives with enhancement in the independent consciousness of women [15,16]. The following content offers details of this: (1) Women consumers pay special attention to the emotional factors transmitted by products, and their purchasing motivation can be affected by the appearance, shape, and color of a product. In addition, their purchasing intention can be formed when they are attracted to unique appearances and multiple color styles with mental feelings, such as warm and romantic feelings created by atmosphere. (2) Women are attentive; thus, when they are buying a product, they will focus on detail in designs, measure the value of a product by comparing it with other products, and tend to spend a longer time on comparing product characteristics with specific benefits; thus, a good product shall provide women with a tangible experience service. (3) Not all women have much time of their own. For example, some married female employees need to sacrifice their time for their families. Therefore, products with easy operation are closer to the needs of women. In fact, women like to pursue changes in stability, as it will promote freshness and creativity in their busy lives.

3 Research method and process

In this study, 149 questionnaires were issued, 124 questionnaires were collected, and 82 effective questionnaires were actually obtained. The different population variables were coded in mark a ~ e.

3.1 Sample Overall Preference and Sensory Image

There are 8 samples in this study, respectively named in M1~M8. It can be seen that the first preference is M1, and the average preference is 3.49. The second is M4, with a preference average of 3.18. The third is M7, with a preference average of 3.15. The last place is M5, with a preference average of 2.59.

It can be found from the first M1 image (SD map) that the sensory image features are: "Warm, Plain, Bright, Serious, Classical, Rational, Safe, Masculine". Among them, "bright, safe" sensory image value is particularly high. It shows that most women are most receptive to visually bright, securely colored cars. The sensation image of M4 in the second place of overall preference was characterized by "Cold, Plain, Bright, Serious, Popular, Rational, Safe and Masculine". M4 shares the same characteristics as M1 in "Plain, Bright, Serious, Rational, Safe, and Masculine" sensory image.

The sensory image presented by the sample M5 with the lowest overall preference includes: "Warm, Gorgeous, Bright, Vivacious, Popular, Emotional, Safe and Feminine". It can be seen that the negative image words include "Gorgeous, Vivacious, Emotional and Feminine". When the automotive interior color is presented to a female consumer with the above four sensory images, the female consumer does not favor and selects a colored car of such color.

3.2 Variance Analysis

In this section, variance analysis will be conducted on the influence degree of various population variables on the color preference of automobile interior decoration, and more special and obviously different factors will be taken out to explain. Education degree and occupation have no obvious preference

for automobile interior decoration color, so they will not be explained. It shows the preference situation of respondents with different population variables to each sample.

3.3.1 Analysis of Differences between Automobile Interior Color and Marital Status

It can be seen from table 6 that different marital status have significant differences in the preference of sample M6. The preference of sample M6 in "Unmarried (a1)" is to present the phenomenon of special liking, while in "Married (a2)" it is to present the phenomenon of general feeling, namely $a1 > a2$. It can be seen from this that marital status only has a small effect on the color of automobile interior decoration. And it can be seen from M6's sensory image map that unmarried people should obviously prefer dark colors and rational interior colors with male characteristics.

3.3.2 Analysis of Differences between Automobile Interior Color and Age

Results from the variance analysis showed that the preference of different age groups to samples M2, M7 and M8 was significantly different. In the sample M2, "over 45 (c4)" preferred this color, second only to M1; The "35 to 44 (c3)" preference is average; The preference of "18-24 (c1)" and "25-34 (c2)" showed that they did not like it. The mean preference of all age groups for sample M2 is ranked $c4 > c3 > c2 > c1$. In the sample M7, "over 45 (c4)" preferred this color; The preference for "25-34 (c2)" is common; The preference of "18-24 (c1)" and "35-44 (c3)" showed that they do not like it. The mean preference of all age groups for sample M7 is $c4 > c2 > c3 > c1$. In sample M8, "over 45 (c4)" preferred this color; The preference of "25-34 (c2)", "18-24 (c1)" and "35-44 (c3)" showed that they did not like it. The mean preference of all age groups for sample M8 is $c4 > c2 > c3 > c1$. It can be seen that age is an important demographic variable influencing female consumers' preference for automobile interior color.

3.3.3 Analysis of Differences between Automobile Interior Color and Personal Monthly Income

It can be seen that different monthly incomes have significant differences in preference of M2, M3 and M6. In the sample M2, "over 60000(e4)" and "40001 -- 60000(e3)" preferred this color; The preference for "20001 -- 40000(e2)" is common; The preference of "below 20000 (e1)" presents the phenomenon of dislike; The mean of preference of all age groups to sample M2 is $e4 > e3 > e2 > e1$. The overall preference of M3 and M6 is not added. Only "20001-40000 (e2)" preference of M3 is common. The mean preference of M3 for all age groups was $e2 > e4 > e1 > e3$. In M6, the preference of "20001-40000 (e2)" and "below 20000 (e1)" is ordinary, while the others are showing the phenomenon of dislike. The mean preference of M3 for all age groups was $e2 > e1 > e3 > e4$.

Integrated the impact on the results of the analysis of population variables, according to the "Marital status", "Age", "Personal monthly income" three demographic variables on the preference of car built-in color may be significant differences among them, in order to "Age" is the strongest, the influence of the "Marital status" and " Personal monthly income " only to within a few specific color has significant differences, preference difference is small, so the "Age" in the

population variable is within car color preference difference is one of the main reasons.

4 Results and Discussion

4.1. Conclusions

1. Analysis on the Preference of Automobile Interior Color

According to the results of sensory image analysis, the automobile interior decoration color presents "Plain, Bright, Serious, Rational, Safe and Masculine " sensory images, which will make most female office workers have preference. Among them, "Serious, Rational, Safe and Masculine " sensory images are most likely to attract female office workers' preference. It can be seen from this that most female office workers hope to feel rational and safe when driving, and the overall interior decoration color can give female office workers a sense of being cared by men. The automobile interior presents " Gorgeous, Vivacious, Emotional and Feminine " sensory image, which will make most female office workers have negative feelings. Therefore, it can be known that female office workers use cars as a means of transportation, hoping to drive sober, free from various factors, and get to the destination safely.

2. Analysis of Differences between Automobile Interior Color and Different Background

According to the results of the study, the three demographic variables of "Marital status", "Age" and "Personal monthly income" have significant differences on the color preference of automobile interior decoration. Among them, age is the most significant. Different age groups have different preference to automobile interior color, among which the age group above 45 is the most special. However, "Marital status" and "Personal monthly income" only have significant differences in the color of a few specific interior decoration, and the preference difference is relatively small. Therefore, "Age" is the most important reason for the difference in color preference of automobile interior decoration in the demographic variation.

4.2. Future Work Suggestions

1. Due to limited time and manpower, this study did not investigate female office workers of different regions, so follow-up researchers can explore female office workers of different regions' preference for automobile interior color.

2. According to the analysis of the difference of color preference of automobile interior decoration in different backgrounds, "Age" is the most important reason for the difference of color preference of automobile interior decoration in the demographic variation. The subsequent researchers can further explore the difference of color preference of female office workers in automobile interior decoration with "Age".

3. This study only focuses on female workers' preference for automobile interior color, and subsequent researchers can conduct research on other consumer groups.

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