PSYCHOLOGICAL MECHANISM OF AESTHETIC PREFERENCE FOR DIFFERENT ARTISTIC FORMS

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Abstract

The artistic effect of the same content varies with the artistic form. Targeting the art of painting, this paper attempts to disclose the psychological mechanism of the aesthetic preference for different compositions of painting. Firstly, three theoretical models of aesthetic psychology were briefly introduced. Then, the authors designed a paradigm to adjust the spatial composition of paintings. On this basis, a famous Chinese painting was rotated by different angles and used to study the aesthetic preference of fine art students and other students. The results show that the subjects considered the paintings rotated by 45° and 135° the most beautiful works of art, followed by that rotated by 90°, and found those rotated by 0° and 180° the least beautiful; the fine art students preferred the painting rotated by 45°, while the other students showed no obvious preference for this painting, indicating that the aesthetic preference is greatly affected by the knowledge on painting. The research findings enrich the theories and practices on aesthetic psychology in painting composition.

Key words: Artistic Expression, Spatial Composition, Aesthetic Preference, Aesthetic Psychology, Psychological Mechanism.

INTRODUCTION

The organizational structure and external expression of the elements in things and phenomena are called forms (Miu, Simina, & Szentágotai-Tătar, 2016). The internal organization and external expressions of artistic works and the sum of various artistic means are called artistic expressions (Haines & Davies, 1904). The content and expression of art are interdependent: the content of art needs to be expressed through artistic expressions, while the content of art determines the form of artistic expression (Leonid, 2014). Therefore, under different artistic expressions, the audience's aesthetic preferences also vary. It is helpful for the development of art to study the psychological mechanism of the audience's aesthetic preferences under different artistic expressions.

Sense of beauty is an experience for the beauty of things, but it is difficult to define "beauty." For this, lots of scholars have conducted constant exploration and studies. In 1735, a German philosophy, Baumgarten introduced the term "aesthetics" and defined aesthetics as the preference of perceptual cognition (Banner, 2000). Aesthetic psychology is the use of psychological research methods, taking beauty and aesthetics as research objects and exploring the process of its psychological activity (Stamatopoulou, 2004). Fechner is the founder of experimental psychology, known as the "father of psychophysics". He conducted a series of empirical studies on aesthetic psychology in the early stage of psychology as an empirical science, arguing that objective experience and knowledge constitute top-down aesthetics (Braslow, 2000). The aestheticists Cai Xin and Fechner found in the study that the beauty of many works of art stems from the fact that their proportions are in line with the golden section (Leder, Bar, & Topolinski, 2012). Since the birth of aesthetic psychology, there have
emerged many schools, e.g., cognitive psychology believes that aesthetic perception, understanding, and judgment are the main processes of aesthetics; Bolaiin proposed the aesthetic arousal theory and believed that the process of subject pursuing the best level of awakening and obtaining the pleasure constitutes the aesthetic experience of the subject (Roubertoux, Carlier, & Chaguiboff, 1971). In terms of the differences in aesthetic objects, aesthetic psychology can be divided into auditory aesthetics, visual aesthetics, aesthetics of literary works and aesthetics of performing arts. Looking through relevant references at home and abroad (Bao, Yang, Lin et al., 2016), it’s found that the results of auditory aesthetic research are relatively rich, but there have been few researches on aesthetic psychology of literary works and performing arts. Compared with other fields, visual aesthetics is the main areas of psychology research, achieving more abundant results in colour, abstract works and paintings. The aesthetic of paintings is the research focus of attention in visual aesthetic psychology, involving the specific paintings and the painting styles. In recent years, the aesthetic research of painting composition has become a hot topic, but its research method is too simple, and there are still many shortcomings in the composition mechanism of psychological aesthetics.

Based on the above analysis, this paper attempts to study the psychological mechanism of the audience’s aesthetic preference under different drawings compositions in the art of painting. For this, it briefly introduces the theoretical models of three common aesthetic psychologies. In order to make up for the deficiency of the traditional aesthetic preference evaluation paradigm, and better grasp the rule of subject’s aesthetic preference for spatial composition, it also designs a generation and adjustment paradigm with limited conditional composition based on the aesthetic preference paradigm. Taking the landscape painting “Shrimp” of Qi Baishi as the experimental material, it studies the psychological mechanism of the aesthetic preference according to different orientations and the space angular relationship between the shrimps in the figurative graphs.

RELATED THEORETICAL BASIS

Theoretical model of aesthetic psychology

In recent years, with the gradual deepening of aesthetic psychology research, different models have been used to interpret the people’s psychology of aesthetic activities, mainly including the information processing model of Leder aesthetic experience, the three-stage aesthetic processing model of Jacoben et al., and the visual aesthetic cognitive neural model of Chatterjee.

(1) Information processing model of aesthetic experience

Aesthetic input, output and psychological process are the three main processes of aesthetic experience. The premise of aesthetic experience is to present the stimulus material to the observer’s input process; aesthetic emotion and aesthetic evaluation are the two results of aesthetic output. Leder et al. from the perspective of cognitive processing, divided the aesthetic psychological process into five stages: the perceptual analysis stage, the implicit memory integration stage, the explicit classification stage, the cognitive mastery stage and the evaluation stage, as shown in Figure 1. They also emphasized that cognition and emotion are two main steps of aesthetic experiences.

![Figure 1. Five-stage mental model of aesthetic experience](image)

(2) Three-stage model of aesthetic processing

Jacoben et al. proposed a three-stage model of aesthetic processing through aesthetic experiments: the perceiving stage, the central processing stage, and the output stage as shown in Figure 2.

![Figure 2. Aesthetic processing three-stage model](image)
(3) Cognitive neural model of visual aesthetic preference

Chatterjee divided the visual aesthetic process into three stages of visual processing: early stage, middle stage, and late stage, and considered that perception, cognition, and emotional response are the three main processes of visual aesthetics. In the early stage of visual processing, features such as shape, color, and orientation are extracted; the middle stage of visual processing is to group the features extracted by early visual processing and generate attention through feedback, which is an iterative process; in the late processing stage, the extracted features are further identified and processed to trigger the emotional response (like or dislike) of the subject to the aesthetic object, and ultimately make an aesthetic decision.

Experimental paradigm of aesthetic preference psychological mechanism

(1) Evaluation paradigm of aesthetic preference

By relevant references at home and abroad (Martindale & Borkum, 1990), previous studies usually required participants to view the experimental materials and evaluate the experimental material composition, ranging between 1-5 points. However, according to this evaluation paradigm of aesthetic preference, the subjects can only judge according to the limited experimental stimuli presented, but cannot adjust and compose the images. Thus, there exist great limitations in fully expressing the rule of the aesthetic preference of the spatial composition.

(2) The generation and adjustment paradigm of painting space composition

Studies have shown that (Urban, 1901), compared with passive aesthetics, active composition allows participants to better express their preference of spatial composition aesthetics. In order to make up for the lack of traditional evaluation paradigm of aesthetic preference, and better master the subjects' preference of the spatial composition aesthetic preference, this paper designs a generation adjustment paradigm of painting spatial composition with conditional composition based on the aesthetic preference paradigm. During the experiment, the participants will see the pre-partially completed experimental materials of spatial composition; only by selecting and completing the composition of the remaining parts as required in the other given composition objects, can a picture that the subject considers "good-looking" be formed. To avoid repeated operations and traverse various situations as much as possible, this paper uses the method of randomly generating images by computer, ensuring different pictures seen by the subjects in the experiment.

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Research methods

In the figurative graphic composition, the orientation plays an important role. The different orientations of the various components in the same work reflect the different emotions of the painter, and the aesthetic experience of the viewers will be completely different. Therefore, this paper studies the psychological mechanism of the audiences' aesthetic preference under the different orientations and the spatial angles in the figurative graphic.

(1) Subjects

In order to further explore the influence of professional level on the audience's aesthetic preference, the subjects were classified into two groups: professional group (44 persons) and amateur group (40 persons) selected from one certain art college and non-art college in Beijing respectively. The professional group has been trained in formal painting skills, and the amateur group has not yet.

(2) Experimental process

The painting "shrimp" of Qi Baishi was selected as the experimental material. With the black and white color, there were 8 choices for the specific orientation of the shrimp head in Figure 3(a). The angle between the adjacent orientations in the 8 positions is 45°, e.g., the specific position of the shrimp is 6, obliquely to the lower left as shown in Figure 3(b).

Figure 3. Specific location of the shrimp

Before the experiment, the subjects were instructed about specific operation methods and took two sets of exercises. During the experiment,
the subjects sat in front of the laboratory computer for experimental operation, with the resolution of the computer screen 1,280*1,024 pixels, and the display screens of 17 inches. The experiment was carried out 32 times at the frame aspect ratio of 2:5 or 5:2 each, for a total of 64 times, and the quadrants and positions of the shrimps seen in the experiment were not repeated. After entering the experimental interface, the subjects viewed an incomplete picture on the left side of the interface, i.e., the landscape painting “Shrimp” of Qi baishi, as shown in Figure 4 (a), while the eight shrimps in different orientations were on the right side of the interface in Figure 4 (b). Then, the subjects could drag the mouse to select any of the eight shrimps, put it in the picture, constantly adjust their specific position to form a landscape painting. Until they felt satisfied, they would click the enter key for submission and proceed to the next set of operations

**Figure 4. Experimental picture diagram**

(a)

(b)

**Analysis of experimental results**

The specific location and orientation of the “shrimp” placed in the experiment were statistically analysed using spss16.0.

(1) The orientation and angle of the two “shrimps”

The chi-square test found that the orientation of the two shrimps showed a very significant difference when the subjects were composing, that is, due to the difference in the orientation of the shrimp in the experimental pictures, the specific orientation choices of the shrimps were significantly different in the composition process of the subjects. Figure 5 shows the statistical results of the orientation and angle between the two “shrimps”. It can be seen from the figure that for the subjects’ selection of the shrimp orientation, it occurred less frequently to be in the same (0°) or opposite direction (180°) to the position of the shrimp in the original image, namely 15.1% and 16.3% respectively. The subjects were more inclined to have a certain angle relationship between the two “shrimps”, and the angle of 45° and 90° accounted for a higher proportion, respectively 24.2% and 23.7%, that is, the subject has a higher aesthetic preference when there is a convergence trend between the composition orientation of the two objects.

**Figure 5. Experimental picture diagram**

![Figure 5](image)

The angled composition in Figure 5 is one of the most beautiful composition examples for the subjects.

**Figure 6. The most beautiful angled composition example**

(2) Analysis of the differences in the aesthetic preference between the professional group and the amateur group

The chi-square test results found that there
were significant differences in the composition orientation between the professional group and the amateur group. Figure 7 shows the analysis results of the differences in the aesthetic preferences of the subjects in the professional group and the general group. It can be seen from the figure that there was no significant difference in the orientation choice of shrimps for the amateur group, but the selected ratio of the 90° orientation angle was significantly higher than the other degrees, while the professional group preferred the 45° orientation angle, and compared with the amateur group, there was a less proportion of 0° and 180° orientation angles in the professional group.

**Figure 7. Analysis of differences in aesthetic preferences between subjects and subjects in the professional group**

CONCLUSIONS

In China, "poetry", "calligraphy" and "painting" are three important fields of traditional aesthetics. Since ancient times, painting has always been the "carrier of beauty". Therefore, taking the painting art as an example, this paper aims to study the psychological mechanism of the audience aesthetic preference under different drawing compositions in painting. The specific conclusions are as follows:

1. In order to make up for the deficiency of the traditional aesthetic preference evaluation paradigm and better grasp the rules of the subject’s aesthetic preference for spatial composition, this paper designs a generation adjustment paradigm of spatial composition based on the aesthetic preference paradigm;

(2) Qi Baishi’s landscape painting "Shrimp" was selected as the experimental material, to study the psychological mechanism of the aesthetic preference by the audience in different orientations and spatial angles of the figurative graphics using the "whitening" method. The results showed that for the subjects, the 0° and 180° are the least beautiful angles in the composition, while 45° and 135° are the most beautiful angles, followed by 90°;

3. It also has a significant influence on the audience’s aesthetic preference on whether or not receiving painting education. Compared with the amateur group, the professional group is more inclined to 45°, while the amateur group has no obvious preference for the orientation of the composition;

4. The research conclusions about the "most beautiful" angle in this study have certain limitations, because in principle the angle can range from 0° to 360°. In this paper, only the simplest eight specific forms were selected. In the subsequence study, the more accurate conclusions can be drawn if the subjects are allowed to adjust the angle arbitrarily.

REFERENCES


