

# Research on Office Furniture Design based on Color Psychology

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## Abstract

Office furniture is essential in the workplace, so office workers have higher requirements for office furniture. Color plays a vital role in office furniture design. It affects people's mood with its unique advantages in psychology. Color is not only an aesthetics, but also a visual art. It can beautify office furniture, adjust the mood of office staff, relieve their visual fatigue in long-time work, so as to mobilize the enthusiasm of office staff and improve work efficiency. This paper expounds the application of color in office furniture from the aspects of color overview, influencing factors, design principles and color design.

## Keywords

Color Psychology; Work; Office Furniture.

## 1. Introduction

The allocation of color is both art and culture. Color has been given too much aesthetic understanding, and there is a lack of rational thinking at this stage. In the design of office furniture, through the analysis of color psychology, this paper discusses the law of color, finds the theory and experience of color on people's visual feeling, summarizes the role of color in space design from a scientific point of view, and puts it into practice. Color is the precious wealth given by nature to mankind. Color is an important part of space design. The research on color needs the cooperation of various disciplines and guides designers to carry out color design based on professional and scientific theories.

## 2. Background of Color Design in Office Furniture

In the long history of human development, many famous color theorists have appeared. They have systematically studied the color related theories, and finally formed their own color theories. The term "color psychology" came into being in the process of human color research. Goethe first noticed and expressed the relationship between color and human emotion. Ackerman's Goethe's conversation systematically discusses Goethe's theories related to color research, and points out that Goethe's theories have brought valuable experience to human research related to color, and have a far-reaching impact on architectural design, interior design, furniture design, etc. On the basis of predecessors, Mary C. Miller of the United States wrote an introduction to color in interior design. In her book, she focused on the interdependent relationship between color and interior furniture, and discussed in detail the influence of color on interior design and the application of color. These theories have a great impact on real life. It can guide designers to understand the principle of color and apply it to design projects, Then create a pleasant visual and spiritual color. Although China has integrated color with human psychology long ago, it has not formed a perfect practical application theoretical system.

### 3. Color Function Analysis of Office Furniture

The perception of color can enrich the aesthetic feeling of product modeling. If furniture color matching is handled well, it can coordinate or make up for some deficiencies in modeling and make it icing on the cake. It is easy to win the favor of users and get twice the result with half the effort. On the contrary, if the color matching of furniture is not handled properly, it will not only affect the exertion of furniture function and destroy the overall beauty of furniture modeling, but also easily affect people's mood of work and rest, resulting in some dull, dull, indifferent and even depressed mood. For office furniture, it will distract the operator's attention and reduce work efficiency.

#### 3.1. Blue

By far known as the "most popular", blue is one of the most efficient colors you can choose for your office furniture color scheme. There are a variety of tones, which can be energetic or soothing, and can have a calm impact in a busy environment. However, some blue shadows can be seen as sad or cold, so balance them with warm tones or praise these blues with contrasting tones of brown or green to keep them in the spectrum that attracts everyone.

#### 3.2. Green

Natural color, fresh air and plant life, green is related to growth and renewal, and is associated with broader thinking and creativity. For the office environment where inspiration is the key, green can meet the impulse of innovation and the driving force of progress. The soft green tone also has the same calming effect as blue, which can reduce anxiety and promote balance. Green also has an additional benefit, which can relieve eye fatigue.

#### 3.3. Red

Vibrant color, red has significant vitality characteristics. It has the additional benefits of warm color. It can enrich the environment and make blood flow, literally. Research shows that blood flow increases, heart rate increases and brain wave activity increases. However, a balance must be struck. Red is also a hostile color and has an increasing impact on appetite. Too much red, your smart and dynamic team can affect competition rather than cooperation, and they may feel the need to eat snacks more frequently.

#### 3.4. Yellow

Sunshine and fun colors, yellow promotes cheering. Another good creative color, yellow, can bring optimism and innovation. For those who need a good place to work, yellow is a good choice. Even like red, it will make employees hungry. Have you noticed that the colors of McDonald's are red and yellow.

#### 3.5. Brown

Brown is usually associated with wanting to keep a low profile without being noticed. It is actually a beautiful color of firm strength and professionalism. Warm brown tone is a dreamy background, which can present more bright colors, such as red or cyan green, and can adjust the brightness of many colors, which may be submerged in high concentration. Brown doesn't need to be clumsy or darken the room. After all, this is the background that nature chose for her green and blue.

#### 3.6. Pink

Surprised? Pink has enough calming effect for some people, and prisons often use it to try to spread aggressive behavior. Because it is a bright possibility and its relationship with red, pink is also the color of energy and happiness, without the feeling of annoying snacks. Whether used on the wall or as a focus, pink can bring focused energy, while no other color can improve.

### 3.7. White

Despite its clean, modern appeal, white has its obvious disadvantages. As a cool color, it is famous for its cold and clinical. Too monochrome, people find that they reflect things that are not very efficient at work. White people can actually make employees more prone to mistakes. But don't discount white completely. When used as a strong toner, it can diffuse brighter colors in the spectrum and increase the softness that is not common when white is independent.

### 3.8. Grey

Usually associated with depression or blandness, gray is not a good color for the overall office plan. However, like brown, it forms a sharp contrast with bright colors, or you can adjust the busy multi-color scheme. Too much, it is oppressive, but in the right amount, it is a perfect anchor to a too bright environment to help relieve tired eyes and worn nerves.

## 4. Factors Affecting Color Design of Office Furniture

Under the background of rapid development, people have higher and higher requirements for office furniture, from the material level to the spiritual level, which also makes the factors affecting the color design of office furniture more and more diverse. The main factors are as follows.

### 4.1. The Influence of and Light on the Color of Office Furniture

In all human sensory experiences, vision accounts for the largest proportion of external information, accounting for about 87%. If you want to form an impression of external information through vision, you must have light. Light shines on the object to form color, so as to arouse people's color memory or color impression. In the color design of office furniture, light is not only one of the components, but also one of the main factors affecting the design of office furniture.

#### 4.1.1. Natural Light

Natural light, also known as sunlight, changes in temperature and temperature according to time, place, climate and season. Natural light can be divided into three stages according to the angle between the sun and the ground:

First, in the morning and evening, the included angle between the sun and the ground is about  $15^\circ$ . The light absorbs the suspended particles in the atmosphere. The diameter of the suspended particles is greater than the wavelength of the incident wave. Therefore, the thickness of the air reaching the ground increases and the perspective effect is strong. The light turns soft red, showing rich spatial levels. Therefore, in the area where the office tools are placed with sufficient light, the cooler tone should be selected; In the design of the shady side, we should choose a warm tone to increase the color expression of the object itself.

Second, in the morning and afternoon, the angle between the sun and the ground is  $15^\circ - 60^\circ$ , the lighting intensity, color temperature and light are relatively stable, the color of the subject is normal and the level is rich, which can well show the outline and texture of the object, which is called "normal lighting time".

Third, at noon, the included angle between the sun and the ground is  $90^\circ$ , the lighting intensity is high, and the illuminated object has clear vision, three-dimensional and strong texture. The light is dazzling white, which produces a large amount of reflected light. The contrast between light and shade is not strong. It is easy to be visually tired in this environment for a long time. To sum up, when designing office furniture, especially in places requiring high concentration, we should make full use of natural light to achieve the efficiency of energy conservation and environmental protection.

#### 4.1.2. Artificial Light

Natural light is affected by the alternation of day and night, and the performance of space is insufficient. The cooperation of artificial light must be used to balance the space. Artificial light is better controlled than natural light. The color of the light it produces is changeable, which plays a great role in creating the atmosphere of the space. Its own color performance can better shape the color and atmosphere of the space, increase the sense of spatial hierarchy, and play the role of separating the space. At present, the lights used in office furniture include halogen lamps, incandescent lamps, LED lamps and so on. The color of halogen lamp is white, which can strengthen the reflected light and make the object color more accurate and clear. It is commonly used in office areas. LED has the characteristics of non heating, small size, color change and long service life. It is commonly used in the placement of office furniture in public areas. This can make the color in the space clearer, prevent dazzle, and help office workers keep a clear mind, so as to improve work efficiency and prevent the occurrence of generalized anxiety disorder.

#### 4.2. Influence of Materials on Color of Office Furniture

There are many kinds of materials used in office furniture, such as metal, wood, textiles and plastics. They have their own characteristics, combined with the surrounding environment to produce different effects, but also affect the surrounding environment. For example, metal gives people a cold, hard and sharp feeling.

It has strong lines, high reflection intensity and strong decoration. When combined with color, the space will become full, and when combined with dark color, the space will become calm. The wood texture is clear, the color is soft, and the combination with color gives people a quiet and calm feeling without losing the lively feeling. Decoration on office furniture can better express the color in the space. Wood has rich texture and high hardness. Combined with color, it gives people a gorgeous and atmospheric feeling. Decoration in the reception area of office furniture can better shape the spatial level. Textiles are soft and strong in texture.

It gives people a cordial feeling. Combined with color, it can create a comfortable and warm atmosphere. Glass has good perspective and light transmission performance. Combined with color, it has the feeling of "clear, transparent and bright", making the space more permeable, communicative and daylighting.

#### 4.3. The Influence of Office Furniture Color on People's Psychology

Color can convey people's inner feelings with the help of people's visual perception experience in life. For example, red gives people a lively, warm and warm feeling; Blue gives people a calm, rational and broad feeling. In design, it often emphasizes science and technology and efficiency; Green is the symbolic color of peace, representing freshness and hope, giving people a sense of safety, calm and comfort; Gray is a neutral color, giving people a sense of calmness and simplicity; White is the representative color of light, which represents brightness, cleanness and simplicity. It is often used with other colors. Therefore, in the design, we should make full use of the factors of color psychology to design office furniture that meets both people's needs and enterprise ideas. 3 design principle of color in office furniture when designing the color of office furniture, we should not only consider its functionality, but also consider the impact of color on the psychology and physiology of office personnel in the long-time work of office furniture, and make full use of the aesthetic principle of color design to reasonably and effectively complete the color design of office furniture. The basic principles of color design in office furniture are as follows.

First, make full use of the principle of change and unity in the law of formal beauty, and make differences in color design according to different use functions of office furniture. The two is to make full use of the principle of harmony and contrast in the rule of formal beauty. According to the scale, culture and type of office furniture, the color design of office environment should

be correspondingly increased and reduced. The harmony in color can make the space produce a sense of order, make the space organized, interrelated and closely combined with each other. The contrast in color can make the space rich in changes on the basis of harmony, so as to stimulate the innovation ability of office staff and improve office efficiency. The third is to follow the principles of functionality and comfort in the design of office furniture. According to the orientation, orientation, floor and natural light of each office furniture, the color design of the office environment should be properly adjusted in combination with natural light and light. At the same time, the reflection of light can also be used to set off in the space, so as to achieve the effect of environmental protection and energy saving. Fourth, follow the openness principle in the design of office furniture. According to the different users of office furniture, the needs of different people should be taken into account in the color design of office environment. The needs of leaders and employees are different. The office furniture in the leadership Office focuses on calm and generous, cultural atmosphere and a certain sense of dignity, while ordinary employees focus on comfort, simplicity and affinity. Fifth, the color design of the office environment should be targeted according to people's activities and use time in the office furniture. Color is the most effective regulator of space, so contrast color can be used to emphasize the key areas in the space.

## **5. Application of Color in Office Furniture**

### **5.1. Application of Office Furniture Color in Office**

The office is divided into an open office and a private office. The open office has a relatively concentrated staff, belongs to the public space of the whole company, covers a large area, affects the main tone of the design of the whole company, and generally gives priority to gray tone or white and cold tone. Color also plays a role in regulating space. The color with high lightness and purity has a sense of heaviness, tension, progress and expansion, which virtually puts pressure on the staff and makes them energetic.

High concentration, easy to suffer from anxiety in the long run. On the contrary, colors with low lightness and purity have a sense of retreat and relaxation, which can stabilize the mood of office workers and improve efficiency. In the design, try to use a unified tone, but it needs to be adjusted with the color of furniture and plants to break the dull feeling caused by the unity of tone. The private office is generally the area where managers work, which has a certain independence and needs a certain sense of stability and dignity. Avoid using colors with high brightness and purity in design, so as to avoid the irritability caused by color affecting decision-making. Too cold hue will also affect the mood of users. Colors with low saturation can be used in the design, and the use of color types can not be too much. It is necessary to keep clean and tidy, so that the space as a whole presents a more smooth state.

### **5.2. Color Application of Office Furniture in Conference Room**

Conference room is a relatively large space for personnel. It can show the centripetal force of the company to a certain extent. It is a relatively serious area. The design of office furniture should generally reflect the company's culture and condense the company's cultural connotation. The choice of color should not be too exaggerated. It should not only reflect a certain sense of dignity, but also give people a kind of "advice, suggestions and free speech" atmosphere. For example, some design companies and R & D companies may have a "brainstorming" at any time during the meeting. In terms of color, choose expressive colors and colors that can highlight corporate culture and cohesion, and appropriately add some lively colors as ornaments to weaken the psychological oppression brought by the word "conference room". It aims to break the shackles and guide office staff to explore. In terms of design, it has

peculiar shapes and beautiful colors, and is committed to creating a young, open, inclusive and dynamic innovative conference space.

### 5.3. Application of Office Furniture Color in Negotiation Area

The negotiation area is a place for the company to communicate with customers and represents the image of the company. Its main purpose is to make the communication more effective. The design of the negotiation area should not be too rigid, which hinders the communication between the two sides. It is better to design the negotiation area more vividly, so that people who communicate in the negotiation area can express themselves at will. In terms of design, you can choose bright and warm colors with a certain contrast. The use of hue can adopt the unity and change law in the law of formal beauty. "Change" can well distinguish each individual negotiation area and give customers a kind of privacy psychologically. "Unity" is that the overall hue cannot be too different, and the centripetal force of the company can be reflected in the unity of hue. Some green plants can be properly arranged in the area to improve the overall environment, make people feel comfortable physically and mentally, and give customers a kind and comfortable environment.

### 5.4. Application of Office Furniture Color in Leisure and Entertainment Areas

Today is the era of information network. People spend more and more time in office furniture, which leads to it becoming a necessary "living" space for people's work. The office environment has even changed to half a "home", which is enough to see that a relaxed, pleasant, harmonious, efficient and comfortable office environment has become more and more important in people's life. Leisure and entertainment space is an area for staff to rest, entertain and relax. In the design, fresh and active colors such as red, blue, yellow and green with high purity and lightness can be reasonably used. On the basis of the unity of color tone and the overall environment of the company, add lively colors, which can not only not destroy the main tone, but also increase the vitality of space, so as to stimulate employees' innovation and make their thinking active.

## 6. Conclusion

Color is a topic that keeps pace with the times. If you want to fully explore the connotation of color, you should fully understand the trend of the times and people's psychology. As a part of the main work of contemporary workers, the rational application of color plays an important role in the regulation of employees' working mood, the improvement of efficiency and the embodiment of corporate culture. By analyzing the factors affecting the color design of office furniture, this paper expounds how to effectively solve the above problems. Therefore, designers should give full play to the coordination role of color in space design, so that the design can truly meet the dual needs of material and spirit pursued by people under the development of the new era.

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