

## **Влияние цвета на человеческую психику**

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**Аннотация:** В данной статье предоставлены характеристики основных цветов, а также различные типы воздействия цвета на человека: физические эффекты, психологические эффекты и оптические эффекты цвета. Также я исследовала символику цвета, что она означает. В статье представлена зависимость выбора предпочтительного цвета в зависимости от темперамента человека. Основная цель данной статьи - донести до читателя, как цвет может влиять на эмоциональное состояние человека.

**Ключевые слова:** цвет, влияние цвета, психологическое воздействие.

## **The Effect of Color in the Human Psyche**

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**Annotation:** In this article, I examined the characteristics of the primary colors, as well as the different types of effects of color on a person: physical effects, psychological effects and optical effects of color. I also examined the symbolism of color, what they mean. The article presents the dependence of the choice of the

preferred color, depending on the person's temperament. The main goal of this article was to convey to the reader how color can affect the emotional state of a person.

**Keywords:** color, influence of color, psychological impact.

**Introduction.** We live in a colored world. Only a person who is blind from birth can fail to notice this. When we see the transparent blue of the sky, the bright colors of flowers on the green grass, the dazzling yellow sun, it is difficult to remain indifferent. Each of us has colors that we like more than others, we guess that colors somehow affect us, can affect our mood and may be on our state of health.

Since the time of I. Newton, color has almost lost its magical and ritual functions. Once colors were considered almost deities, but objective science has proven that color is only a subjective sensation that occurs when an electromagnetic wave of a certain length is exposed to the visual analyzer. It objectively depends on the characteristics of refraction, reflection and absorption of light waves of those media and surfaces of objects that are between the radiation source and the human eye, as well as in his field of vision. Subjectively, a person may not feel colors (color blindness), or perceive them distortedly (color blindness). Objective aspects of color vision are studied by physical optics, subjective - physiological and psychology of color perception.

### **1. The influence of color on the human psyche**

The fact that color affects our emotions and even psyche, people intuitively noticed for a long time. No wonder we are talking about "festive, joyful, cheerful" colors and "dull, gloomy" tones.

Color creates a certain emotional atmosphere, affects mood and performance, and even well-being. One example can be cited: during research by specialists, it was found that at an air temperature of + 15-17 C, being in a room with bright yellow or orange walls, a healthy person in a shirt with short sleeves does not feel cold, but at the same temperature he freezes in a room with gray-blue walls. Therefore, it is imperative to carefully select colors for painting walls, ceilings and floors.

Many scientists have dealt with the problem of the effect of color on the psyche. For example, one of the most reliable and widespread tests of a person's condition is the Luscher test. The test subject is asked to choose the most pleasant color from a

group of colors, then, from the remaining ones, they are again offered to choose the most pleasant one, and so on.

Calculating the results accordingly, they make a conclusion about the psych emotional state of a person, about his physical health. The same Luscher solved the inverse problem - by presenting colors to a person according to a certain program, they achieve changes in his emotional and physiological states.

Color acts almost automatically on human physiology. Below is a table of the psychological characteristics of flowers [3].

*Table 1. Psychological characteristics of flowers*

Color	Color type	Color characteristics
Red	Warm	Exciting, dynamic, active, aggressive.
Pink	Warm	Romantic, feminine, soothing. Relieves aggressiveness; suppresses in large numbers.
Orange	Warm	Joy, energy, warmth, play, dynamism, optimism, impulsivity. Activates the body, enhances reaction, creates a sense of well-being, self-confidence
Yellow	Warm	Bright, sunny, clean, convincing, success, wealth, inspiration. Stimulates the brain, does not irritate the eyes. Suitable for conveying joyful mood
Brown	Warm	Pleasant, attractive. Creates a feeling of coziness, comfort, strength, stability, maturity, conservatism.
Green	Cold	Relaxing, calming, inert, novelty, independence, money (dollars). Symbolizes youth, freshness, health. Has the ability to concentrate and sharpen vision
Sky blue	Cold	It has a relaxing, calming effect, relieves anxious feelings, cools.
Blue	Cold	Serious, discreet, cold. Suitable for conveying reliability, strength, contentment, harmony. Helps to concentrate on the main thing, attracts attention. Perfectly conveys the feeling of cold and cleanliness
Violet	Cold	Dark, depressing. Hard to read. A symbol of romance, mysticism, mystery. Stimulates brain function. Disturbing and discouraging.
White	Bright	Symbolizes openness, purity, nobility, clarity, perfection, simplicity. Visually expands the space. Usually used in

		combination with blue, red, or green. However, the warm colors next to it look very colorful.
Gray	Neutral	The color of moderation, calmness, realism, solidity, prestige
Black	Dark	Symbolizes wisdom, superiority, constancy, secrecy, sophistication, curiosity, strength, mysticism, intrigue, power. Associated with oppression, coldness, threats, fear of loss, mourning. Able to inspire melancholy, a feeling of loneliness, isolation from the outside world

## 2. Physical impact

In the case of physical exposure, we are talking about the effect of color on human physiology. The objective effect of color has been confirmed experimentally and depends on the amount of color, color quality, exposure time, characteristics of the nervous system, age, gender and other factors. A direct physiological effect on the entire human body explains the phenomena caused by red and blue colors, especially at their maximum saturation. The red color excites the nervous system, causes an increase in respiration and pulse rate and activates the work of the muscular system. The blue color has an inhibitory effect on the nervous system. Red, yellow, orange are the colors of extraversion, i.e. outward-facing impulse. A group of blue, purple, green, on the other hand, for passive introversion and inward-facing impulses.

Orange and red colors, exciting along the way with the visual and auditory centers of the brain, which causes an apparent increase in the volume of noise. It is not without reason that these active colors are often referred to as "flashy". Green and blue, soothing colors, attenuate the arousal of the auditory center, i.e. as it were, weaken or compensate for the loudness of the noise.

The yellow-brown color seems dry, greenish-blue - wet, pink - sweet, red - warm, orange - flashy, purple - heavy, yellow - light. Associations cannot explain this effect of color. It is caused by synesthesia, i.e. excitement of one sense organ with irritation of the other. Below are the main characteristics of the apparent impact of colors [2, 157].

*Table 2. Main characteristics of the apparent impact of colors*

<b>Color</b>	<b>Specification</b>			
White	light			
Yellow	light	warm	dry	
Orange		warm	dry	screaming, loud
Red	heavy	warm	dry	screaming, loud
Violet	heavy			
Blue	heavy	cold	wet	quiet, calm
Green		cool	wet	calm
Blue	light		wet	quiet, calm
Brown	heavy	warm	wet	
Black	heavy		dry	

### **3. Optical impact of color**

These effects include illusions or optical phenomena caused by color and changing the appearance of objects. Considering the optical phenomena of color, all colors can be conditionally divided into two groups: red and blue, because in general, the optical properties of colors will gravitate towards one of these groups. The exception is green.

Light colors, for example, white or yellow, create the effect of irradiation, they seem to spread to the darker colors located next to them and reduce the surfaces painted in these colors. For example, if a beam of light penetrates through a slit in a plank wall, then the slit appears wider than it actually is.

When the sun shines through the branches of trees, these branches appear thinner than usual (see Figure 1).



**Fig. 1.** An example of optical impact

The main optical features of the groups of red and blue colors: yellow color visually raises the surface. It seems, moreover, more extensive due to the effect of

irradiation; red is approaching us, blue, on the contrary, is receding; planes painted in dark blue, purple and black, visually decrease and rush to the bottom; green is the calmest of all colors.

Also noteworthy is the yellow centrifugal movement and the blue centripetal movement. If you make two circles of equal size and fill one with yellow and the other with blue (see Figure 2), then after a short concentration on them, it becomes noticeable that the yellow beam emits, acquires movement from the center and is almost palpable, approaches the person. Blue, on the other hand, develops a centripetal movement (like a snail pulling itself into its house) and moves away from a person. The first circle pricks the eyes, in the second the eye sinks.

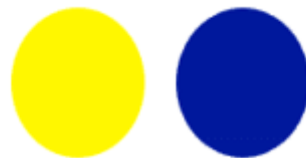


Fig. 2. An example of centrifugal and centripetal motion

This impact is increased if we add to it the difference in light and dark, i.e. the effect of yellow will increase when white is added to it, blue - when it is darkened with black.

#### **4. Psychological impact**

With the psychological influence of color, we are talking about feelings of experiences that we can experience under the influence of a particular color. This influence is very closely related to the optical properties of color. On the basis of sociological research, the following range of colors was obtained with decreasing preference: cyan - violet - white - pink - purple - red - green - yellow - orange - brown - black. The dependence of the choice of the preferred color on temperament is illustrated in the figure [1, 185].

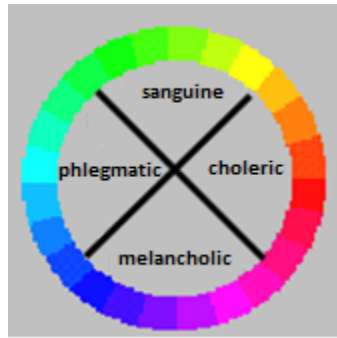


Fig. 3. Dependence of the choice of the preferred color on temperament

The character and expressiveness of a color can vary significantly depending on various associations. Each of us is trying to explain the emotional characteristics of a particular color by the nature of the objects on which we usually perceive this color. This is an individual feature of each person. It is very difficult to establish any rules here, but with some probability it can be assumed that red is associated with fire and blood, yellow - with the sun, blue - with the sky, water, green - with forest, meadows.

### 5. Symbols of color

The symbolism of color is based on the objective features of the psyche, on all sorts of associations. This can be said about the most saturated colors, tk. when the color changes, its symbolism also changes, for example, red - activity, passion when adding white turns pink, which symbolizes tenderness. With the addition of black, a burgundy is obtained, which has an "immoral" symbolic meaning. The most solemn combination is white, red and gilding. The meanings of colors in heraldry are constant and canonized.

A psychological effect on a person is exerted not only by individual colors, but also by color combinations. Moreover, here the arrangement of colors in space is very important. The psycho physiological effect of color largely depends on the greater or lesser saturation of the color, the size of the color spot, the distance and direction from which the color is exposed.

If we want both decorative forms to be the same in terms of impact force, it is necessary to change the ratio of the painted surfaces. We often judge a color by its visual weight. If on any surface below dark colors are given, and above - light colors, then such a solution makes a stable impression. On the contrary, there will be an

impression of instability. As for the effect of color at a distance, it is characteristic that the combination of black on a yellow background has the greatest distinguish ability. As the contrast deteriorates, the following combinations are located: yellow on black; white on blue; black on orange; orange on black; black on white; white on red; red on yellow; green on white; orange on white; red on green.

**Conclusion.** Today, color psychology is an empirical science. One of the main obstacles to the creation of a scientific theory of the relationship between color and psyche is the insufficient degree of systematization and generalization of the accumulated facts concerning the relationship between color and psyche.

Color serves as a means of communication. This is a force that stimulates our consciousness, color is a key factor in a person's life, it awakens a whole string of emotions, it can lift our spirits, or, on the contrary, lead us into a depressed state. It would seem that it is obvious that the judgment that the colors surrounding us from birth have an objective, direct effect on the body, nervous system and human psyche, tuning it in tune with the world around us. However, this idea of the direct effect of color on the human psyche has caused and is causing active rejection of the supporters of the sociocultural approach to explain the genesis of color associations.

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