

WHITE PAPER

Understanding Color Psychology:
How Color Selections Impact the Built Environment

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Summary

Every space that we interact with is filled with color; the grocery store, our favorite restaurant, our homes. In these spaces, those colors are a choice made with the goal to influence how the end user feels. When we see red, it grabs our attention. It can be associated with speed and is also known to stimulate an appetite. These factors make red an ideal choice for fast-food restaurants¹. Whether red is directly in their branding, or used in the color palette inside the restaurant, the color choice is deliberate. Throughout this paper, we will explore color psychology and how it impacts the use and perception of interior environments.

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What is Color Psychology?

Color is not just a characteristic of an object; there is an entire science of color that studies how it is interpreted and its impact on the viewer. Color psychology, the science of color, plays a crucial role in many industries, including interior design. Designers think about color every day on their projects; reviewing what colors will make the biggest impact, make a room feel larger, or set the correct mood for the intended function of the space.

One of the fundamental elements of design is color. The science of color starts with a twelve-segment color wheel that acts as a guide to understand color and their relationships. The color wheel can be read and broken down into three categories: primary, secondary and tertiary colors. Primary colors, red, blue and yellow, form a triangle on the color wheel, with red being the top color. These are our basic colors that are blended to create the secondary and tertiary. Secondary colors consist of orange, purple and green and form another triangle between the primary colors. Lastly, tertiary colors are the blends of primary and secondary colors: red-orange, yellow-orange, yellow-green, blue-green, blue-violet and red-violet².

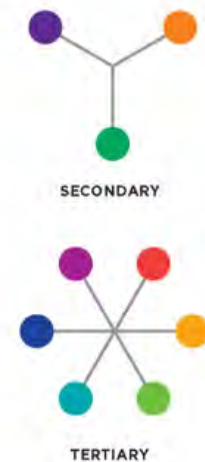
¹ Creating Vibrant Spaces: The Psychology of Colour in Interior Environments by Sharad Gupta, pg. 38, Kindle Edition

² The Complete Color Harmony by Tina Sutton and Bride M. Whelan, pg. 10-11

WHITE PAPER

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3

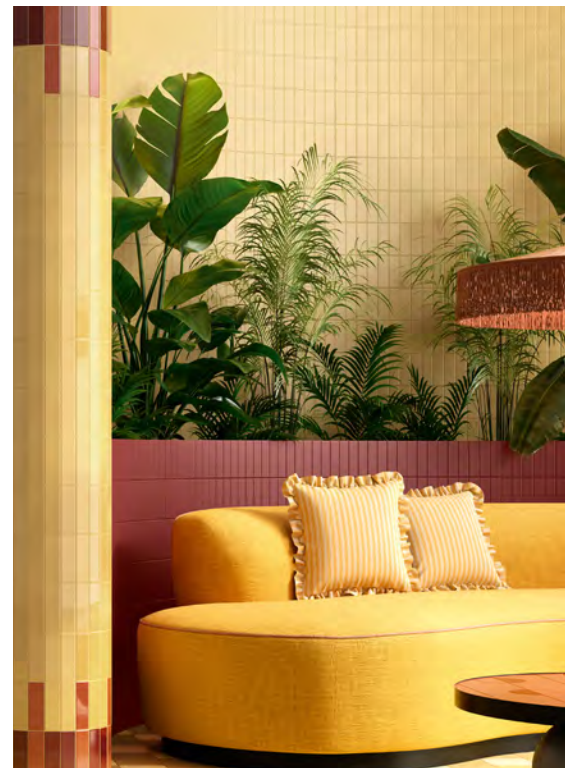
The colors on the color wheel are at full saturation. White and black can be added to these colors to change their value, such as pastels and muted tones. When white is added to a color, it lessens the saturation, creating a tint. When black is added, creating a darker color, this is referred to as a shade. Changing the saturation of a color impacts how it is perceived and adds more depth and diversity to a color palette. The color wheel established a color order and can be used as a tool to understand the relationships between colors.

Color Relationships

Colors on their own hold power and meaning. When paired together with other colors, the impact can be amplified in a whole new way. There are ten defined color schemes that are based on the relationship of colors and their placement on the color wheel.⁴

Below we explore a few of the schemes:

Analogous color schemes are using any three consecutive colors on the color wheel together. For example, red, orange and yellow. Any tints and shades of these three colors would make up an analogous color scheme. The proximity of these colors makes the scheme harmonious and read smoothly.



³Images: The Complete Color Harmony by Tina Sutton and Bride M. Whelan, pg. 10-11

⁴ The Complete Color Harmony by Tina Sutton and Bride M. Whelan, pg. 24

WHITE PAPER

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Color Relationships (continued)

Another common color scheme used in design is monochromatic. A monochromatic scheme works with one color from the color wheel and only uses tints and shades of that color. Using one color with different values brings depth and highlights to a space; a simple elegance.

It is said that opposites attract, that hold true for a complementary scheme. Complementary schemes use two colors that are directly across from one another on the color wheel, such as red and green, or orange and blue. These bold contrasts are often seen as exciting, dynamic and bring a fresh pop to the space. When utilizing a contrast palette, be sure to consider the proportions of color to ensure balance.

Above we reviewed primary colors or red, yellow and blue. Together, these create a primary color scheme. These three colors are special, as they are the base for mixing and creating all other colors. They are the foundation that each color is built on. A primary color scheme is bold, and introduced early on through toys, cartoons, and brand logos.

Colors - What Do They Mean?

Understanding color psychology is crucial to design and making color selections for the built environment. Each color has a psychological and physiological effect on all of us. Not only are relationships between colors important, but also our human relationship to color.



Colors - What Do They Mean? (continued)

We break colors down into categories and have associations with them. For instance, we consider some colors warm and others cool. Warm colors, such as red, yellow and orange, are bright and attention-grabbing. These colors are powerful, and can influence blood-pressure, and stimulate the nervous system. Cool colors on the other hand, blues, green and purples, are opposite of warm colors on the color wheel and have the opposite effect. Cool colors are considered soothing and tranquil.⁵

Just as we categorize colors into warm and cool, we also group them into light and dark. Adding white to lighten a color on the color wheel, creating a tint, softens the color. These tints are often interpreted as airy, calm. They can offer a moment of rest for the eye, soften a palette, and open up a space. In contrast, adding black to a color on the color wheel, creating a shade, it often makes a space feel smaller, more intimate. Shades can offer dramatic moments to a space, creating focal points.⁶

Each color has its own interpretations and feelings associated with them. Below are common associations with specific colors. It is important to note that in some culture's colors can have differing meanings and representations. For example, the Western perception of white is pure and clean. In some Eastern cultures, white represents mourning and funerals.⁷ These cultural differences should be taking into consideration when working on a project.

- Red is perceived as an extreme, powerful color. It is associated with strong emotions such as love and hate. Due to its bold nature, red is often used to grab attention and can create a lively atmosphere. Red can be associated with urgency and speed, and studies have shown that it can promote an appetite.⁸
- Pink is considered the color of romance. It is a tint of red, muting the extreme emotion of love, into something softer and sweet.⁹
- Orange is often considered a friendly color. It is energetic and warm. Internationally, orange is the color of safety, as it is used on life rafts and other safety devices. Orange is considered to stimulate creativity, activity and enthusiasm.¹⁰
- Yellow, sun-shining yellow. Yellow is bright, cheerful, and full of energy. Yellow is often seen on smiley faces, portraying happiness and optimism.¹¹

⁵The Complete Color Harmony by Tina Sutton and Bride M. Whelan, pg. 16-17

⁶The Complete Color Harmony by Tina Sutton and Bride M. Whelan, pg. 10-11

⁷Creating Vibrant Spaces: The Psychology of Colour in Interior Environments by Sharad Gupta, pg. 38, Kindle Edition

⁸<https://insightspsychology.org/psychology-of-color-emotional-impact/>

⁹The Complete Color Harmony by Tina Sutton and Bride M. Whelan, pg. 58

¹⁰The Complete Color Harmony by Tina Sutton and Bride M. Whelan, pg. 70

¹¹Creating Vibrant Spaces: The Psychology of Colour in Interior Environments by Sharad Gupta, Kindle Edition

Colors - What Do They Mean? (continued)

- Green is the color of nature. It is earthy, balanced and refreshing. Often associated with renewal, much like blossoms in spring, and can evoke peace. Green is a way to bring a sense of life into a space, connecting back to nature.¹²
- Blue is the color of steadiness, tranquility, and trust. Universally, blue is well received and promotes calmness and relaxation.¹³ Often seen in spas and health environments, blue has a calming effect on the body to help reduce stress.
- Purple is seen as a color of luxury. Historically, purple was a difficult color to create, making it only accessible for the wealthy and royalty. It can also be seen as a spiritual color, associated with some religious practices. Lighter tints of purple are gentle like lilacs and offer a similar calmness to blues. Darker shades are rich and elegant.¹⁴
- White is seen as pure and clean. It can be simple, bright, and offer a reprieve in a space for the eyes to relax while taking in all the other colors and textures. White offers openness to a space and can be peaceful.
- Black is dramatic, bold and elegant. Adding black to a palette will be sure to draw attention, create depth and a focal point. Black makes an impact with minimal use.¹⁵



¹³ & ¹⁵ <https://insightspsychology.org/psychology-of-color-emotional-impact/>

¹² & ¹⁴ <https://www.emilgroup.com/magazine/how-does-interior-design-help-mental-health-how-to-transform-your-space-and-mind/>

Color Selections for Interior Environments

Color selections for a space can seem like an intimidating process. Where do you start and how do you know if the colors will invoke the desired effect? Understanding the meaning behind color is crucial when designing and selecting a color palette for a space, and so is how the color is applied.

Blue, as mentioned above, is a universally well-received color. It is seen as historical, trustworthy, tranquil, and steady. Tints and shades of blue also influence how the color is perceived in a space. Light blues have white in them, diluting the boldness of the primary color. The added white helps make light blue more airy, open and soft compared to a darker shade of blue. The darker shades can make a room feel smaller, more intimate and cozy.¹⁶ This same concept is true with tints and shades: the lighter the color, the more open a space can feel, whereas the darker shades will start to bring a space in and feel closer.



¹⁶ Creating Vibrant Spaces: The Psychology of Colour in Interior Environments by Sharad Gupta, pg. 38, Kindle Edition

Color Selections for Interior Environments (continued)

Bold colors are fun and daring. They can create a great focal point in a space, add some excitement to an otherwise neutral palette, creating energy and a place for conversation and activity. Too much of a color, or strong saturation, can be seen as out of balance and overwhelming, such as too much bright red can cause agitation. This can be overstimulating for the end users in the space and distract from the intended use. When selecting colors, always be aware of proportions to create a balanced palette and use bold colors strategically.



Bringing nature and natural elements into a space is a great way to help the end users relax, feel rejuvenated and promote focus and concentration. Green is the common color associated with nature and biophilic design due to its association with grass, trees, forest and landscapes. Research has shown that earth tones, such as greens and browns, are beneficial to reduce stress and boost overall well-being.¹⁷ Typical in healthcare and spa settings, greens help bring peace to the end user to unwind, heal and reflect.

¹⁶ Creating Vibrant Spaces: The Psychology of Colour in Interior Environments by Sharad Gupta, pg. 44, Kindle Edition

Color Selections for Interior Environments (continued)

Neutral colors provide a great base for a design palette. They let bold colors shine, offer a break for the eyes to rest, or can be beautiful and subtle on their own. Light neutrals can make a space feel larger, more open and provide a calming and grounding effect.¹⁸ This allows the space to breathe, and in turn, the end user. Many neutrals such as whites, creams and beige tones are warm and welcoming. Balancing a fully neutral palette with different tints, shades, and textures can create a rich space, full of depth. Adding in rich, darker tones like chocolate browns can elevate a space further and shift the focus to a specific element.



Conclusion

Color is an intentional choice in every design decision. Understanding colors, how they can work together harmoniously, and their effect on the end user all impact the success of the design of the built environment. Colors can impact what a person focuses on in the room, creativity, mood shifts, physical responses, and how large or small a room feels. These considerations are all important to select the correct colors for the intended function of a space. Adding in vibrant, inviting colors is beneficial for a space that is built for conversation and activity, but perhaps not the best choice for a space that is intended to be peaceful and reflective. Selecting and applying colors effectively enhances a design for a successful outcome both aesthetically and functionally.

¹⁸ Creating Vibrant Spaces: The Psychology of Colour in Interior Environments by Sharad Gupta, pg. 23, Kindle Edition

WHITE PAPER

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About the Author

Sabrina is a Design Services Consultant at Creative Materials Corporation, where she collaborates with clients to develop thoughtful material solutions for commercial interiors. Since joining the company two years ago, she has supported projects across a wide range of market segments, helping transform design concepts into functional, high-performing spaces.

She holds a Bachelor of Science in Interior Design with a minor in Psychology, bringing a unique perspective to the relationship between the built environment and human experience. Before joining Creative Materials, Sabrina worked as an interior designer on projects spanning Senior Living, Hospitality, Multi-Family, and Residential environments.

Her passion for combining creativity with practical design solutions reflects Creative Materials' commitment to helping clients design and build better communities.



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