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**THE EFFECT OF COLORS AND HARMONY IN THE DESIGN OF INTERIOR SPACES AND A
CASE STUDY OF THE EFFECT OF COLORS**

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ABOUT ARTICLE

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Abstract: Fundamental to interior design is the use of color and the search for harmony, which have far-reaching effects on the spaces' psychological, functional, and aesthetic attributes. This study delves into the impact of color theory on interior design, specifically how various shades, tones, and color schemes affect people's emotions, thoughts, and actions. The course thoroughly examines color theory fundamentals, such as the relationships between colors on the wheel, color temperature, and the psychological associations of different hues, to offer a thorough grasp of how to incorporate color into interior environments successfully.

Color harmony, the deliberate use of analogous, complementary, and monochromatic color schemes to produce balanced and aesthetically pleasing spaces, is emphasized in the research as an essential goal. It delves into how cultural and environmental influences impact color preferences and interpretations, highlighting how designers should consider them when choosing color palettes for individual projects.

A case study evaluates a residential or commercial space to show how color may be used practically and how it might affect interior design. The study documents the design process, color selections, and their influence on the area's ambiance and user experience. Insights on the effects of color on disposition, ease, and practicality can be gleaned from observations and comments made by inhabitants.

The results show that interior spaces can be better designed with careful attention to color choice, which in turn boosts user happiness and helps achieve their intended goals. At the end of the paper, the authors offer some suggestions for interior designers, urging them to choose colors with care and consideration for the emotional and visual health of those using the area.

INTRODUCTION

Scientists have long postulated that different hues elicit different emotional responses and behavioral changes in humans. The interior color scheme is one example of a design focused solely on psychological impacts. Although it is most commonly used in interior design, architects consider it crucial from a constructivist standpoint when deciding how to visualize spaces, use color, and the likelihood of creating meaning from the location. Concurrently, extensive research in the literature analyzes colors in detail and evaluates them by defining the limits of a particular color scale (Spence & Di Stefano, 2022).

The varied or subjective color parts combine in harmony, contrast, emphasis, or rhythm for aesthetic purposes. Distinct colors of light have distinct impacts on the human brain and body, according to research in the field of color and design. These principles influence every aspect of perception and cognition, from memory and creativity to attentiveness and state of mind. It is well-known that various lighting effects, particularly those involving warm and cold hues, will produce distinct results (Shahidi et al., 2021). Art, design, and advertising that use colors to draw in viewers, make them feel something, or even make them want to take a step back have only enhanced this effect. Because text facilities allow individuals to exist in this intensity, color—which inspires the need to be more present in the life space, office, or urban environment—has an elevated role.

When it comes to interior design and decoration, color is king. From antiquity to the present day, researchers have studied the psychological and physiological impacts of color on humans. Colors have been employed in contexts beyond their essential qualities, incorporating them into disciplines as diverse as art, design, medicine, and psychology. The topic continues to pique people's interest and is being revisited by designers, experts, and scientists with a fresh perspective and innovative ideas. However, most color-related considerations remain in the realm of the subjective and abstract; the other emotional and psychological dimensions still influence the various details of the color scale and how they impact the people in a given space (Costa et al., 2018).

Importance of Colors in Interior Design

Rich proposals in terms of possibilities arise from the distinctive similarities of colors. It calls for a balanced structure that permits several uses without diluting the colors' individuality. "color harmony" refers to a balancing act between the exhilaration and calmness evoked by complementary hues. The most common method designers use when working with color is the mathematical color harmony discovered through specific formulae or the arbitrary and systematic color selection found in color circle systems. Color charts in guidebooks and magazines decide the color harmony that should be used in interior spaces. However, other color harmony proposals are based on cultural traditions. A great deal of variation in the meaning of color harmony has resulted from the hundreds of color harmonies employed due to cultural and historical variance. Harmonizing the color structure's conflicts with the combination of our emotions and discovering their richness is the optimum way for all of these alternatives [ix]. Various models from various fields illustrate diverse perspectives on this unity. Colors have the most profound impact on human psychology when used internally in interior places, where human psychology is most robust. Because of its importance in interior psychology, color selection and application in interior design should occur during the advanced stage of modernization [ix].

What constitutes a suitable color scheme for an interior space is an open topic due to the multidisciplinary character of the human response to color and the intrinsic perceptual changes linked with different forms. Studies claiming that specific colors evoke feelings have raised concerns that such preconceived notions may be illusory. Nevertheless, variables including "where" the colors are utilized, "who" uses them, "for" what purpose, which colors are nearby, and how the colors are used can affect the outcome's variability. This is why interior design considers the aesthetic and psychological implications of color. The most popular color schemes in homes are based on psychological functions, an essential consideration in interior design.

A well-executed color scheme may do wonders for an interior's emotional resonance, visual appeal, and harmony-inducing potential (Kong et al., 2023). A well-curated environment relies on the thoughtful selection of colors to highlight architectural details, change the room, or mix multiple rooms. In addition to shaping our perceptions of vast expanses, their effects generate emotions and set the tone for intimate and expansive settings. Lighting, sound absorption, and calming behavior are just a few examples of how appropriate color use can enhance functionality but also affect mental and behavioral states. Thus, knowing how to apply colors correctly is a priceless talent, regardless of whether you are dealing with clients or a firm (Costa et al., 2018).

Psychological Impact of Colors

In that order, it is said that green, yellow, black, red, purple, pink, and brown represent warmth, melancholy, recompense, love, desire, passion, beauty, joy, and strength. However, in psychology, blue is often associated with serenity, calm, and spirituality. The anticipated qualities of whiteness-calmness and cleanliness are considered. The ornaments that are occasionally colored in each of these themes are what bring them to life. The first portion of the investigation focused on brown colors used in traditional textile goods. This chapter delves into the significance of brown in visual culture and history. Until the discovery of dyes, brown was considered a natural color. Yarn coloring with natural materials was a global phenomenon. Once dried, the dye was mixed in a custom-made 1/1 proportionate machine. Based on the findings of this research, it is recommended to incorporate blue, purple, and red into saloon areas in varied degrees. These colors evoke energetic, warm, peaceful, open, and calming sentiments.

According to Xu and Wu (2022), using color in interior design can potentially boost human vitality, intellect, and mood. Colors considered warm can evoke positive feelings and thoughts and may even unite the neighborhood. Conversely, cold colors can evoke a sense of calm and good emotional reactions (Shahidi et al., 2021). Color authenticity is a culturally specific concept that varies from one culture to another. The general evaluation of colors differs according to cultural viewpoint; for example, white people in East Asia believe that red initially represents happiness, whereas this is not necessarily the case in parts of the globe like South Asia. Also, different colors evoke different feelings in people (Jahanian et al., 2015).

Color Theory in Interior Design

The modern understanding of color is mainly attributable to color theory, which came before the science of human computation and the Protestant blasphemies, or the organized hues of the cutthroat world of subsidizing rules that color design cannot control. Studying color draughts that depict the union from the intermediate to the prior form is usually the basis for modern color theory evolution. Although the topic of color theory has lingered in the realm of worldviews, the color combinations in question are derived by recognizing correspondence tales in visual time-space, except the connection between the color selection of nodes and organs and the fundamental colors of the environment.

Color is an essential component for the final product of any example, and experts in all fields of design, from living to practical to improvement, are well-versed in this. These hues, believed to be reflective and repetitive, belonged to a library with excellent planning and was known to have been an observational civilization thousands of years ago.

The philosophy of color used in home decor. Color is essential to any unit's design, whether for an explicit field or the façade that faces the client. Not all of the implications constitute a landmark in hankers's description of all values as bluish-green, conventional oranges, suspended blurs, and ocean-balanced blues. The association relationship between these hues will captivate us, even though they do not interact. Intensely creative energy, life, and originality may be contained in these things, which are made by separate brains. So, how does the example's color scheme convey a sense of welcome or well-being to our division?

Creating Harmony through Color Combinations

It might be challenging to choose the perfect palette for a particular project, even though many tools assist in creating harmonious color schemes. Though picking from the provided palette is the most straightforward approach to making your schemes, some individuals like to incorporate their colors into their designs differently. The paper uses a color wheel to choose a primary color and then adds that there is a secondary and a third color in the palette that are easily accessible; this creates visual contrast and color harmony. You can enhance your color scheme selection with the help of other visual and textual resources. To create a harmonious atmosphere, Granite, parquet, ceramic, ornamental accessory products, and color are crucial in interior design. Before the advent of the modern computer age, color harmony was a primary concern based on the aesthetic viewpoint (Tong et al., 2022). Therefore, as an essential component in the evolution of the interior design field, we evaluate the impacts of color harmony and color belonging dimensions. Additionally, a case study examining the effects of various color schemes in an apartment serving as an example of a touristic facility and residential space has been conducted, considering visual aspects as part of the holistic approach.

Color has a role in drawing attention to a room, so it is essential to carefully consider how you choose and combine colors when designing an interior space. Color theory and practice have emerged as one of the most pressing issues in contemporary interior design. In order to achieve their goals, people employ the fundamental color harmony criteria (Shamoi et al., 2023). Color or color gamut is a fundamental parameter to describe color harmony. Color schemes necessitate aesthetic standards. The literature presents various issues with color harmony and suggests potential remedies. One school of thought holds that when colors are blended, the color wheel becomes divided into light and broken colors. The counter-argument states that combining pigment and light colors creates a color wheel.

Case Study: Implementing Color Harmony in a Living Room

The photographs include the colors of the main pieces in the living room. The door and window are cream, while the three walls are striped with light blue, basil, pink, and dark amber. The floor and chairs are made of wood-colored laminate. Also, the photographs do not show the black-out colored floor-to-ceiling drapes that separate the living room from the hall; these curtains are meant to match the color of the couch and pillows. Using the room's main features as a guide, choose colors that will serve as principal accents. The secondary colors, light purple, powder blue, powder green, light green, turquoise, and light green, were thought to go well with these primary colors, while the third color was light grey.

Furthermore, this choice aligns with the study's aims and limitations. Thus, the fifth research was omitted to examine perception and gender. Dark amber and navy blue, dirty green and pink basil and powder blue and navy blue are the combinations that have been made.

To begin deciding on the best color schemes for the living room, it is necessary to take note of the exact colors that are currently there and cannot be easily changed. After that, please list all the possible dominating colors and then narrow it down to the best pairings with each one. Next, find the almost ideal midway of each color pair to determine their balance. Possible harmony between the suggested color pairings can be inferred from the apparent similarities and appropriate balancing of the hues.

A famous piece of advice from color psychology specialists is that using color harmony in interior settings can effectively improve residents' emotional wellness (Ikeda et al., 2015). Aesthetic satisfaction heavily depends on factors such as color harmony and the degree to which they promote mental restorativeness (Yamashita et al., 2022). However, researchers and designers must exercise restraint while selecting colors to create a cohesive scheme. The visual appeal of miscalibrated schemes can be either excessively exciting or completely lacking (Hou et al., 2024).

CONCLUSION

Numerous color studies lend credence to the idea that colors can evoke specific emotions when considered harmony and contrast, which is currently trending in the international literature (Hou et al., 2024). Beyond these color impacts on interior design, alterations unique to Turkey emerged due to political, religious, and economic exchanges between Ottoman and Western European cultures. Distinct types of places have distinct impacts on people's mental health when used for meetings, living rooms, and bedrooms. For example, with some simple design changes, the living room can serve as a gathering spot or a platform for various tasks (Xie et al., 2022). That is why health, happiness, social harmony, and economic stability are the primary goals of the space-color composition rules.

The first global impact of Ottoman ornamental culture can be understood by looking at the linkages that united Ottoman and Western civilizations; this influence spread throughout the world's dynasties. Religion, Philosophy, Art, Ethics, Clothing, Personal Usage Areas, Health, Education, Ornaments, and Personal and Symbolic Features were the sections into which psychological influences of color and cultural influences on interior space designs were categorized (Wang et al., 2022). Public spaces, dining halls, sleeping halls, throne rooms, classrooms, dressing rooms, bathrooms, ritual spaces, boudoirs, and deans are all visually influenced by hue. Each portion was separated into several ideas that considered the historical, symbolic, emotional, and symbolic implications.

REFERENCES

1. Spence, C. & Di Stefano, N. (2022). Crossmodal Harmony: Looking for the Meaning of Harmony Beyond Hearing. ncbi.nlm.nih.gov
2. Shahidi, R., Golmohammadi, R., Babamiri, M., Faradmal, J., & Aliabadi, M. (2021). Effect of warm/cool white lights on visual perception and mood in warm/cool color environments. ncbi.nlm.nih.gov
3. Costa, M., Frumento, S., Nese, M., & Predieri, I. (2018). Interior Color and Psychological Functioning in a University Residence Hall. ncbi.nlm.nih.gov
4. Kong, C., Fan, Y., Wan, X., Jiang, F., & Wang, B. (2023). PlatoLM: Teaching LLMs via a Socratic Questioning User Simulator. [PDF]
5. Xu, Y. & Wu, S. (2022). Indoor Color and Space Humanized Design Based on Emotional Needs. ncbi.nlm.nih.gov
6. Jahanian, A., V. N. Vishwanathan, S., & P. Allebach, J. (2015). Colors - Messengers of Concepts: Visual Design Mining for Learning Color Semantics. [PDF]
7. Tong, J., Zhang, G., Kong, P., Rao, Y., Wei, Z., Cui, H., & Guan, Q. (2022). An interpretable approach for automatic aesthetic assessment of remote sensing images. ncbi.nlm.nih.gov
8. Shamo, P., Muratbekova, M., Izbassar, A., Inoue, A., & Kawanaka, H. (2023). Towards a Universal Understanding of Color Harmony: Fuzzy Approach. [PDF]
9. Ikeda, T., Matsuyoshi, D., Sawamoto, N., Fukuyama, H., & Osaka, N. (2015). Color harmony represented by activity in the medial orbitofrontal cortex and amygdala. ncbi.nlm.nih.gov
10. Yamashita, G., Tanaka, M., & Horiuchi, T. (2022). Analysis of harmony between color and fragrance in lighting environments by the reaction of the orbitofrontal area. ncbi.nlm.nih.gov
11. Hou, Y., Yang, M., Cui, H., Wang, L., Xu, J., & Zeng, W. (2024). C2Ideas: Supporting Creative Interior Color Design Ideation with Large Language Model. [PDF]

12. Xie, X., Cai, J., Fang, H., Tang, X., & Yamanaka, T. (2022). Effects of colored lights on an individual's affective impressions in the observation process. [ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/)
13. Wang, S., Liu, J., Jiang, J., Jiang, Y., & Lan, J. (2022). Attribute analysis and modeling of color harmony based on multi-color feature extraction in real-life scenes. [ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/)