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EXPLORING THE USE OF COLOR IN INTERIOR DESIGN: A STUDY OF COLOR PSYCHOLOGY AND ITS EFFECT ON EMOTIONS AND MOOD A CASE STUDY IN IBOM TROPICANA MALL AND DE CHOICE MALL IN UYO, AKWA IBOM STATE

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ABSTRACT

This study explores the use of color in interior design with particular focus on color psychology and its effects on human emotions and mood. The design adopted for this study was the survey research design. This research was carried out in DE-Choice Mall and Ibom Market Square Market in Uyo Local Government Area in Akwa Ibom State. The population of this study consists of all adults shopping inside DE-Choice Mall and Ibom Market Square in Uyo Local Government, Akwa Ibom State. A research instrument titled Exploring the Use of Color in Interior Design (ETUOCIIQ) was used for data collection. Face and content validation of the instrument was carried out by an expert in test, measurement, and evaluation in order to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. Findings revealed that color significantly influences emotional responses and mood states among individuals. The majority of respondents indicated strong associations between specific colors and emotional outcomes: red was linked with intensity, excitement, and anger (47.5%); orange with warmth and impulsiveness (60.0%); yellow with happiness and friendliness (47.5%); blue with calmness, relaxation, and productivity (58.3%); green with balance and calmness (59.2%); and purple with playfulness and creativity (45.8%). Furthermore, cultural and environmental contexts were found to shape these emotional interpretations, with over 60% of respondents affirming culturally influenced perceptions of colors. The study concludes that interior color design plays a significant role in shaping emotional experiences and behavioral responses within built environments. It emphasizes the need for interior designers to integrate psychological and cultural one of the recommendations made was that designer and painters should be familiar with the emotional and psychological effect of various colors. Recognize the individual responses to colors can vary, so they should consider their client's preferences and personalities. Balance warm colors (e.g. red, orange, yellow) with cool colors (e.g. blue, green, purple) to create visual harmony.

KEYWORDS: Color Psychology; Interior Design; Emotions; Mood; Cultural Influence; Built Environment.

INTRODUCTION

Color is a form of non-verbal communication adding lots of variety and individualism in our existing world (Kurt et al 2014). Without color everything would seem dull and monotonous. The effect of color in our mind has significant importance in our lives. Color is defined as a specific visual sensation produced by visible radiation, or color stimulus that occurs when light from a natural or artificial source is interrupted by an object or a dust particle (Harrouk, 2020). The color effect on human mind is also known as color psychology. Color psychology is a common yet less explored branch of the study about how our brain perceives what it visualizes. Color has a strong influence on psychological well-being. A color can communicate feeling of excitement, passion, serenity or mystery (Wright, 2008). Color externalizes human being's tastes and styles. Color is the fundamental quality of our visual perception. Color has the energy to influence both emotions and cognitive processes (Gokcakan et al, 2016). Experience, memories, cultural differences influences the color perception, that is, the same color can differently affect different people (Elliot et al, 2014).

The main objective of the interior design is to create a suitable environment (functionally and aesthetically) to carry out a specific activity, which requires studying the behavior of users of the interior space on a number of basic elements, which are the horizontal and vertical determinants of the space, furniture, ventilation, lighting, materials and colors (Elliot, 2015). Hence, the importance of colors as one of the elements that have a direct impact on the success of the interior design, and an indirect effect through the inherent power of colors that change the sense of space in terms of narrow, breadth, height, visual illusion. The psychological effects on mood and behavior cannot be underestimated. Interior design represents a considerably important factor, which affects the users of the space, in functional, aesthetic and psychological terms. When designing an interior space, it is necessary to have experience in working with colors.

STATEMENT OF THE PROBLEM

Color has been found to increase a person's arousal (Huchendorf, 2017). They have a subterranean consequence on how people feel both psychologically and physically. Various colors represent various moods; therefore the need-to-know what color to paint a particular enclosed space is necessary so that the space will be best utilized by its intended users. Color is one of the effective factors in a space which influences the way individual express their emotions. Color has many emotional impacts, namely; temperature, strong and weak, hard and soft, active and calm. For hardness and softness, brightness and low saturation create a soft feeling, whereas dimness and high saturation create a hard feeling. Also, weaker contrast and saturation convey calmness as opposed to stronger contrast and saturation, which convey activeness. Warm colors are those that are vivid in nature. More so, warm colors, such as red and yellow, increase arousal more than cool colors such as green and blue.

In Uyo, Akwalbom state where the study will be conducted, there are no documented evidence of the people's psychological correlation of color to their emotions and moods. This is a gap that needs to be filled especially as emerging as the city is, now gaining attention in tourism and development. It is also suspected that, food vendors, hotels and local resorts and parks are bereft of the color fascination of the residents due to absence of documented empirical report on such studies. Therefore, the time is right; the researcher will explore the use of color in interior design and its psychological effects on moods and emotions of

individuals in public services places such as hotels and fast-food restaurants within the city as well as home and offices.

OBJECTIVES OF THE STUDY

The objective of the study is to explore the use of color in interior design and its psychological effects on moods and emotions of individual, however, the study specifically addressed the following objectives:

- To determine the impact of different interior design colors on emotional responses of the respondents.
- Examine the Relationship between Interior Design Colors and Mood of respondents.
- Assess the Cultural and Contextual influences on Color-Emotion Associations in Interior Design.

RESEARCH QUESTIONS

The study provided answers to pertinent research questions such as:

- What are the demographic characteristics of individuals in the study?
- How does the use of specific interior design colors influence individuals' overall mood states, such as happiness, relaxation or anxiety?
- How do cultural backgrounds and environmental contexts shape the emotional responses evoked by interior design colors?

LITERATURE REVIEW

Conceptual Framework

Emotions and Mood

Kleinginna et al (2011) tried to arrange 100 definitions of emotion according to systematic order and found that two thirds of these were developed after 1970. This development reflects an increasing interest in the subject of emotion, instead of a convergence of the concept. Kleinginna et al (2011) concluded to define emotion as: "a complex set of interactions among subjective and objective factors, mediated by neural/hormonal systems, which can, firstly, give rise to affective experiences such as emotionally relevant perceptual effects, appraisal, labeling processes; thirdly, activate widespread physiological adjustments to the arousing conditions; and lastly, lead to behavior that is often, but not always, expressive, goal-directed and adaptive". Emotions could be defined as the result of the cognitive judgment of transactions between individuals and the environment in general (Clore et al, 2017; Mehrabian et al, 2014).

Clore (2017) composed a hierarchy of human feelings, as shown in figure 1. Three broad classes of feelings can be distinguished in terms of the information they provide: bodily feelings, such as hunger or pain; affective feelings, such as happiness, sadness or fear and feelings associated with knowledge (cognitive feelings), such as feelings of familiarity, confusion or amazement. Among those three, the affective feelings reflect appraisal of situations with respect to the individual's goal and concerns. Affect is sometimes used as a synonym for emotion but can also refer to valence: the positive and negative aspects of things (Schwarz et al,

2016). Clore's work in fact, elaborates the definition of Arnold (1960) which considers emotions as consequences of ongoing, implicit appraisals of situations with respect to positive or negative implications for goals and concerns. According to figure 1, all emotions are affective, but not all affective things are emotions. Moreover, affective state differs from affective trait. Preferences and attitudes, for example, may be thought of as affective traits, while emotions are affective states.

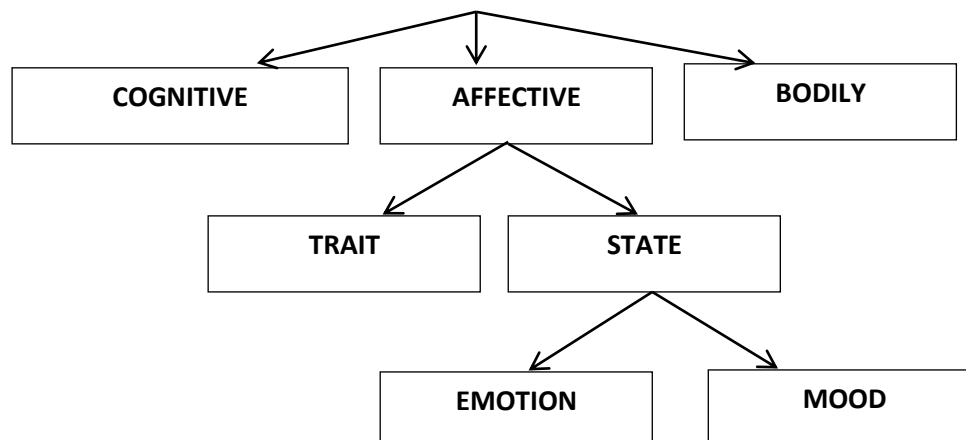


Figure 1 Feeling Tree, Clore (2012)

In the study of Clore et al (2017), emotions are characterized as “internal mental states focused on affect”, which is illustrated in the feeling tree, yet does not distinguish emotion from mood. Averill (2010: quoted in Schwarz et al, 2016) noted that emotions require an object while moods do not. Thus, mood generally refers to the state itself, while emotion refers to both the feelings and what those feelings are about. Schwarz et al (2016) added that the prototypical emotion, contrary to mood, is assumed to have an identifiable referent (what the emotion is “about”). Watson (2000) replicated this distinction. Compared to an emotion, a mood is a longer and slower moving state, which is less tied to specific objects.

Cultural and Contextual Influences on Color

Color is the visual perceptual property corresponding in humans to the categories called red, green, blue and others. Color derives from the spectrum of light (distribution of light energy verse wavelength) interacting in the eye with the spectral sensitivities of the light receptors (Brodie, 2014). The seven colors of the spectrum are produced by light waves of varied lengths that reflects off tangible animate and inanimate objects (Marberry, 2015). Light and color are simply a matter of vibration frequency. Chromatics, the science of color, is the study of this relationship (Graham, 2010).

The primary colors: The primary colors are the three basic hues red, blue and yellow (Aves, 2014). Therefore, it means that these colors cannot be created by mixing others, and they are the basis of all the other shades of colors which they generated. All colors are formed from these threebasic colors.

The secondary colors: These are the colors that are achieved by mixing two primary colors in equal amounts. There are three secondary colors: green (a mixture of blue and yellow), orange (a mixture of red and yellow) and violet (a mixture of red and blue) (Aves, 2014).

The tertiary colors: Tertiary colors are achieved by mixing some amount of primary and secondary hues together. There are six tertiary colors which are lime as a mixture of green with yellow, purple as a mixture of violet with blue, amber as a mixture of yellow with orange and red, lavender as a mixture of violet with blue, amber as a mixture of yellow with orange and turquoise as a mixture of green with blue (Aves, 2014). When blending black or white to these colors, tints and shades will be the results, while tones describe the depth of a color. Neutrals are subtle shade from the palest range of color (beige, cream) and are used for balancing vibrant or rich colors.

Red: In Western cultures, red is associated with love and passion (Fetterman et al, 2012). However, in some Eastern cultures, it may symbolize luck, celebration or even weddings. In the context of a restaurant, red may stimulate appetite and create a vibrant and energetic atmosphere (Genschow et al, 2012).

White: In Western cultures, white is often associated with purity and weddings. However, in some Eastern cultures, it can symbolize mourning or funerals (Osgood et al, 2015).

Yellow: In Western cultures, yellow is associated with happiness and positivity (Kuller et al, 2016). Yet, in some Eastern cultures, it can be associated with cowardice or betrayal (Valdez et al, 2014).

Purple: Historically associated with royalty and luxury, purple can evoke a sense of opulence and power (Elliot, 2014).

Gold: Often associated with wealth and divinity, gold can symbolize prestige, prosperity and sacredness (Nuala, 2018).

Green: In Islam, green is associated with paradise and is considered a holy color. It can symbolize fertility, renewal and harmony. According to Kaya and Epps (2014), green is a symbol of peace, growth and nature. According to research, being around green spaces, or even just the color green, can lower stress levels, boost wellbeing and encourage relaxation (Berto, 2005). Green is a popular color for eco-friendly products and projects because it is associated with environmentalism and sustainability (Schlosser, 2011).

Blue: In a corporate environment, blue can convey professionalism, trust and reliability (Gorn et al, 2014). In a spa or wellness center, it may evoke a sense of calmness and relaxation. According to research (Mehta et al, 2019), blue settings can improve productivity, cognitive function and creativity. In branding and logo design, blue is widely used to express reliability as well as trustworthiness (Labrecque et al, 2012).

Black: Black is frequently linked to authority, refinement and formality (Kaya et al, 2004). It is a common option in high-end fashion and product design since it can arouse feelings of elegance and luxury. Nevertheless, depending on the situation, black can also be connected to negativity and heaviness.

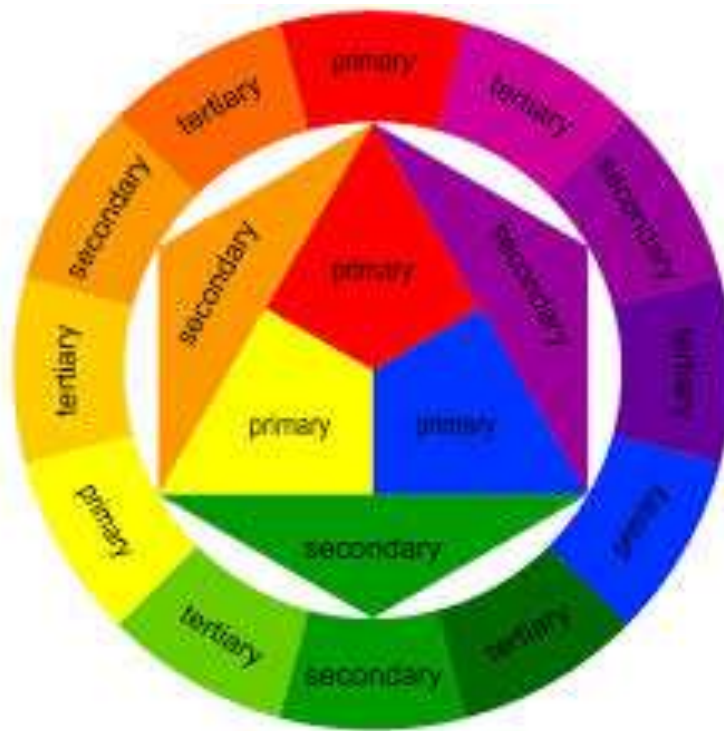


Figure 2 Color Wheel

Source: Adapted from interior color by design: a design tool for architects, interior designers, and homeowner, by J. Poore, Gloucester, MA: Rockport. Copyright 2014 by Rockport Publishers.

Wright (2008) says there are four psychological primary colors: red, blue, yellow and green. They relate, respectively to the body, the mind, the emotions and the essential balance between these three. The emotional effects of the basic colors are as follows:

Red: Being the longest wavelength, red is a powerful, strong and very basic color. It has the property of appearing to be nearer than it is and therefore it grabs people’s attention first. It may activate the “fight or flight instinct”. Pure red is the simplest color, with no subtlety. It is stimulating and lively, very friendly. At the same time, it can be perceived as demanding and aggressive although the red colored spaces have courage, strength, warmth, energy, basic survival, “fight or flight,” stimulation, masculinity, excitement effects on people (Wright, 2008). Defiance, aggression, visual impact and strain are among the negative impacts of red color.

Yellow: According to Eiseman (2006), yellow is thought of as joyful, outgoing, open and friendly. In color-mood association studies, yellow is associated with comedy, a happy mood and playfulness. Yellow ribbons have been used as a sign of hope and optimism since the nineteenth century. Psychologically, yellow is the strongest color, it is about emotions, self-esteem and creativity (Wright, 2008).

Green: Green is considered an emotionally calming color. It gives a sense of refreshment, harmony and equilibrium. It symbolizes universal love, environmental awareness and peace. Eiseman (2006) claims that people find cool shades of blue and green and neutral earth tones to be relaxing because these colors remind of nature. Although it is the color of balance, it may have negative effects too, such as being too bland, bore and demoralizing when incorrectly used.

Blue: Blue encourages intellectual activity, reason and logical thought. It is the color of the intellect. In the same evidence about raising blood pressure with red, blue is deemed to lower the blood pressure. Certainly, it is a soothing, calming color encouraging reflection. Nature uses it in the sky and the sea (Wright, 2008). Strong blues stimulate clear thought and lighter, soft blues calm the mind and aid concentration.

THE INFLUENCE OF COLOR ON EMOTIONS AND MOOD

Color has a profound influence on our emotions and mood. Different color can evoke specific emotional responses and create distinct atmospheres within a space. While individual experiences and cultural backgrounds can influence these responses, there are some general associations between colors and emotions. Here is an overview of the influence of color on emotions and moods:

- **Warm Colors:**

Red: Red is often associated with passion, love and energy (Fetterman et al, 2012). It can evoke strong emotions and increase excitement and intensity. It may also stimulate appetite and create a sense of urgency (Genschow et al, 2012).

Orange: Orange is seen as a warm and vibrant color that can evoke feelings of enthusiasm, creativity and optimism. It is associated with energy and social interaction.

Yellow: Yellow is a bright and cheerful color that is often associated with happiness, positivity and optimism. It can create a sense of joy, warmth and energy (Kuller et al, 2016).

- **Cool Colors:**

Blue: Blue is often associated with calmness, serenity and tranquility (Gorn et al, 2014). It can create a sense of relaxation and peace, reducing stress and promoting a soothing ambiance (Mehta et al, 2019).

Green: Green is linked to nature and is perceived as refreshing and harmonious. It can evoke feelings of balance, harmony and rejuvenation (Kaya et al, 2014). Green is known to have a calming effect and can create a sense of well-being.

Purple: Purple is often associated with creativity, spirituality and luxury (Elliot, 2014). It can evoke a sense of introspection, inspiration and a touch of mystery.

- **Neutral Colors:**

White: White is often associated with purity, simplicity and spaciousness. It can create a sense of cleanliness and clarity. White can evoke feelings of calmness and purity, making it suitable for spaces where a clean and minimalist aesthetic is desired (Osgood et al, 2015).

Gray: Gray is perceived as a neutral and sophisticated color. It can create a sense of balance and timelessness. Gray is often used as a versatile backdrop to enhance other colors in a space.

Brown: Brown is associated with earthiness, warmth and stability. It can create a cozy and grounded atmosphere.

METHODOLOGY

The design adopted for this study was the survey research design. This research was carried out in D-Choice Mall and Ibom Market Square Market in Uyo Local Government Area in AkwaIbom State. The population of this study consists of all adults shopping inside D-Choice Mall and Ibom Market Square in Uyo Local Governmentt, AkwaIbom State. A research instrument titled Exploring the Use of Color in Interior Design (ETUOCIIQ) was used for data collection. Face and content validation of the instrument was carried out by an expert in test, measurement, and evaluation in order to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration.

RESULT OF PRESENTATION

Research Question 1: What are the demographic characteristics of individuals in the study?

Table 1: Demographic Characteristics of Adolescents in Abak Local Government Area in AkwaIbom State

Variables	Frequency	Percentage
(%)		
Sex		
Male	61	50.8
Female	59	49.2
Age		
Below 17	04	3.3
18-35	97	80.8
35 and above	19	15.8
Religion		
Christianity	77	64.2
Islamic	37	30.8
Others	6	5.0
Education Level		
Primary	0	0
Secondary	17	14.2
Tertiary	103	85.8
Eye Defect		
Yes	1	0.8
No	119	99.2

Table 1 represents Demographic Characteristics of individuals in the study. Greater percentages (50.8%) of the respondents were male while lesser percentage (49.2%) of the

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respondents were female. Higher percentage (80.8%) of the respondents were in the age range of 18-35 years while (3.3%) of the respondents were below 17 years and (15.8%) of the respondents were 36 years and above. Highest percentage (64.2%) of the respondents were Christians while (30.8%) and (5.0%) of the respondents were Islam and others respectively. Highest percentage (85.8%) of the respondents attended tertiary institution while (14.2%) attended secondary school. Greater percentage (99.2%) of the respondents did not have any eye defect whereas (0.8%) had eye defect.

Research Question 2: How does the use of specific interior design colors influence individuals' overall mood states, such as happiness, relaxation or anxiety?

Table 2: Mood Responses

Variables		Frequency	Percentage
Red	Intensity, Anger, Excitement, Lust	57	47.5
Orange	Impulsiveness, Caution, Warmth	72	60.0
Yellow	Friendly, Happiness, Optimism	57	47.5
Green	Calm, Happiness, Lucky, Patient	71	59.2
Blue	Productive, Calm, Relaxed, Cold	70	58.3
Purple	Happiness, Playfulness, Productive	55	45.8
Total	<i>Multiple responses</i>	382	318.3

Table 2 represents how the use of specific interior design colors influence individuals' overall mood states, such as happiness, relaxation or anxiety. Highest percentage (47.5%) of the respondents strongly agreed that red indicates intensity, anger, excitement, lust. 60% of the respondents agreed that orange indicates impulsiveness, caution, warmth. 47.5% of the respondents agreed that yellow indicates friendly, happiness, lucky, patient. 58.3% of the respondents strongly agreed that blue indicates productive, calm, relaxed, cold. 45.8% of the respondents agreed that purple indicates happiness, playfulness, productive.

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Research Question 3: How do cultural backgrounds and environmental contexts shape the emotional responses evoked by interior design colors?

Table 3: Cultural and Contextual Influences

Variables		Frequency	Percentage
Red	Intensity, Anger, Excitement, Lust	81	67.5
Orange	Impulsiveness, Caution, Warmth	86	71.7
Yellow	Friendly, Happiness, Optimism	78	65.0
Green	Calm, Happiness, Lucky, Patient	75	62.5
Blue	Productive, Calm, Relaxed, Cold	59	49.2
Purple	Happiness, Playfulness, Productive	72	60.0
Total	<i>Multiple responses</i>	451	375.9

Table 3 represents how cultural backgrounds and environmental contexts shape the emotional responses evoked by interior design colors. Highest percentage (67.5%) of the respondents strongly agreed that red indicates intensity, anger, excitement, lust. 71.7% of the respondents agreed that orange indicates impulsiveness, caution, warmth. 65.0% of the respondents agreed that yellow indicates friendly, happiness, optimism. 62.5% of the respondents strongly agreed that blue indicates productive, calm, relaxed, cold. 60.0% of the respondents agreed that purple indicates happiness, playfulness, productive.

DISCUSSION OF FINDINGS

Mood Responses

Table 2 represent how the use of specific interior design colors influence individual’s overall mood states, such as happiness, relaxation or anxiety. 47.5% of the respondents strongly agreed that red indicates intensity, anger excitement, lust. This supports the work by Fetterman et al (2012) that red is often associated with passion, love and energy. 60.0% of the respondents agreed that orange indicates impulsiveness, caution, warmth. This collaborates with the work of De Bortoli and Maroto (2011) that in the United States, orange is a color of road hazards, traffic delays and fast food restaurants. 47.5% of the respondents agreed that yellow indicates friendly, happiness, optimism. This supports the work by Kuller et al (2016) that yellow is a bright and cheerful color that is often associated with happiness, positivity and optimism. 59.2% of the respondents strongly agreed that green indicates calm, happiness, lucky, patient. This supports the work by Kaya et al (2014) that green evoke feelings of balance, harmony and rejuvenation. 58.3% of the respondents strongly agreed that blue indicates productive, calm, relaxed, cold. This collaborates with the work of Gorn et al (2014) that blue is often associated with calmness, serenity and tranquility. 45.8% of the respondents agreed that purple indicates happiness, playfulness, productive. This collaborates with the work of Elliot (2014) that purple is often associated with creativity, spirituality and luxury.

CULTURAL AND CONTEXTUAL INFLUENCES

Table 3 showed how cultural backgrounds and environmental contexts shape the emotional responses evoked by interior design colors. 67.5% of the respondents strongly agreed that red indicates intensity, anger, excitement, lust. This supports the work by Fetterman et al (2012) that red is often associated with passion, love and energy. 71.7% of the respondents agreed that orange indicates impulsiveness, caution, warmth. This collaborates with the work of De Bortoli and Maroto (2011) that in the United States, orange is a color of road hazards, traffic delays and fast food restaurants. 65.0% of the respondents agreed that yellow indicates friendly, happiness, optimism. This support the work by Kuller et al (2016) that yellow is a bright and cheerful color that is often associated with happiness, positivity and optimism. 62.5% of the respondents strongly agreed that green indicates calm, happiness, lucky, patient. This supports the work by Kaya et al (2014) that green evoke feelings of balance, harmony and rejuvenation. 49.2% of the respondents strongly agreed that blue indicates productive, calm, relaxed, cold. This collaborates with the work of Gorn et al (2014) that blue is often associated with calmness, serenity and tranquility. 60.0% of the respondents agreed that purple indicates happiness, playfulness, productive. This collaborates with the work of Elliot (2014) that purple is often associated with creativity, spirituality and luxury.

CONCLUSION

Based on the result of the findings, data analysis showed that there is significant relationship between interior color design and its effect on emotions and mood. The study showed that red indicates intensity, anger, excitement, lust. Orange indicates impulsiveness, caution, warmth. Yellow indicates friendly, happiness, optimism. Green indicates calm, happiness, lucky, patient. Blue indicates productive, calm, relaxed, cold. Purple indicates happiness, playfulness, productive

RECOMMENDATIONS

Based on the findings during the study, the researcher has the following recommendation to make:

Designer and painters should be familiar with the emotional and psychological effect of various colors. Recognize the individual responses to colors can vary, so they should consider their client's preferences and personalities. Balance warm colors (e.g. red, orange, yellow) with cool colors (e.g. blue, green, purple) to create visual harmony. This balance can help avoid overwhelming or overly stimulating environments. Use bold and contrasting colors as accents to draw attention to specific areas or architectural features within a room. This can add interest and energy to the space. Involve their clients in the color selection process, taking into account their personal tastes and the emotions they associate with specific colors. This collaboration can result in a space that resonates with the occupants. If their design project has a diverse audience or is located in a culturally diverse area, be aware of cultural associations with colors. Some colors may have different meanings in various cultures. Consider using color to promote wellness in spaces like healthcare facilities and homes. Soft, calming colors can help reduce stress and create a sense of comfort. Finally, keep up with the latest trends in interior design and color to offer fresh and appealing options to their clients.

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