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Analysis of Color Selection and Interior Design in Stimulating Appetite as Determinants of Cafe Atmosphere

Satrio Nata Mulia[1], Fanji Lesmana[2], Annisa Ramadhanty[1]

[1]Universitas Negeri Malang, Indonesia
[2]Polijati Polytechnic, Indonesia

*Correspondence: E-mail: satrio.nata.fis@um.ac.id

ABSTRACT

This study examines the influence of interior design, particularly color selection, on consumer experiences in cafes and its implications for appetite and purchasing behavior. The increasing variety of cafe designs in Indonesia indicates a gap between visual aesthetic goals and the functional needs to increase food consumption. This study uses a descriptive qualitative approach with a comparative case study of several cafes that apply a predominance of warm and cool colors. Data were collected through participant observation, in-depth interviews with cafe owners, designers, and visitors, and visual documentation of interiors. Data analysis used a semiotic and comparative approach to interpret visual meanings and consumer responses to the spatial design. The results show that the use of warm colors with high-CRI lighting can increase appetite and the frequency of purchasing heavy meals, while the predominance of cool colors tends to extend the duration of visits but decreases the intensity of food consumption. These findings emphasize the need to integrate the principles of color psychology, ergonomics, and aesthetics in cafe design that supports consumer culinary experiences.

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1. INTRODUCTION

The cafe business landscape in Indonesia has fundamentally shifted from simply serving beverages to functioning as center of social interaction and productivity (Podlegaeva & Evskina, I. G., 2024). Cafes now operate as third spaces, where individuals live their lifestyles, socialize, work, or seek inspiration. This shift places the interior design and ambiance of the cafe as determinants of the customer experience beyond the quality of the products offered (Atsnawiyah et al., 2021; Kusumaningrum & Wijaya, 2024). The visual and aesthetics of the cafe's physical environment influence consumers' perceptions, emotions, and ultimately, purchasing decisions (Wei & Yin, 2024). In this context, the cafe's ability to stimulate appetite and encourage the purchase of substantial menu items is crucial for business sustainability, especially amidst fierce competition.

Lighting with a warm color temperature and the use of warm interior color spectrums (such as red, orange, or terracotta) are positively correlated with increased appetite in diners (Lynch, S., 2004). Warm colors, especially red and orange, stimulate the autonomic nervous system, increase metabolism, and create feelings of urgency or happiness that indirectly encourage the desire to eat. In contrast, cool lighting and cool interior colors tend to create a calmer atmosphere and may suppress appetite, but may increase the perception of comfort for longer sitting durations.

Warm interior colors may trigger physiological responses that increase appetite and encourage the purchase of substantial menu items, as well as speed up table turnover. This contrasts with cool colors, which will promote longer sitting duration by creating a calm and comfortable atmosphere, but potentially reduce the visual appeal of food and the intensity of desire to eat. Congruence between color temperature and app value orientations significantly influences user attitudes and app download intentions (Volkova & Cho, 2024); similar principles may apply to color congruence and cafe goals.

Although cafes have evolved into multifunctional spaces, many may be less than optimal in maximizing food sales potential. Designs that prioritize "Instagrammable" aesthetics may overlook the principles of environmental psychology that influence consumers' physiological and psychological responses, particularly those related to appetite (Agustina et al., 2020). Questions remain about how interior design elements such as color, lighting, and layout, which collectively create ambiance, can effectively influence diners' appetites. These gaps include limited understanding of the impact of warm and cool colors schemes, as well as the role of appropriate lighting in enhancing food presentation.

This study analyzes how color selection and interior design influence appetite stimulation among cafe visitors. First, it examines the effects of interior color and lighting on physiological and psychological responses related to appetite. Second, it identifies the differences in the influence of warm and cool color spectrums on visit duration and menu purchase tendencies. Finally, it evaluates how cafes balance popular visual aesthetic demands with design principles that support optimal culinary experiences and purchasing decisions.

2. LITERATURE REVIEW

2.1. Color Psychology: The Effects of Warm and Cool Colors on Metabolism and Appetite

Color has a powerful capacity to influence human psychology and physiology (Elliot, A. J., & Maier, M. A. 2014). In the context of the dining environment, color psychology explains how certain color spectrums can influence taste perception, mood, and even metabolism (Volkova & Cho, 2024). Warm colors, such as red, orange, and yellow, are associated with increased energy and stimulation. Red, with its high wavelength, can increase heart rate and create a

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sense of urgency, which indirectly stimulates appetite. Yellow is often associated with happiness and optimism, which can also improve mood and positive perceptions of food. Orange, as a combination of the two, is often used to stimulate hunger and enthusiasm.

Conversely, cool colors like blue, green, and gray tend to convey calm and relaxation. Blue, for example, is often avoided in dining room design because it is historically not found in abundance in natural foods, and therefore can suppress appetite. Green, while often associated with nature and health, in the context of a cafe interior may encourage the perception of freshness rather than stimulating a heavy meal. Gray and monochromatic colors, often used in industrial styles, can create a modern atmosphere but can potentially detract from the visual appeal of food if not balanced with other warm elements (Cho & Lee, 2016). The appropriate use of color based on this understanding can strategically guide consumer behavior in a cafe environment.

2.2. Theory of Atmospherics / Servicescape (Bitner): Physical Environment, Layout, and Lighting in a Cafe

Bitner's Servicescape theory provides a framework for understanding the impact of the physical service environment on customer and employee behavior (Bitner, 1992a). This concept categorizes elements of the physical environment into three main dimensions: ambient conditions, spatial layout and functionality, and artifacts and symbols. Ambient conditions include temperature, air quality, music, and lighting, which influence mood and emotional responses. Spatial layout refers to the arrangement of furniture, equipment, and room layout that influence circulation flow and interaction. Artifacts and symbols, such as decoration, architectural style, and textiles, communicate brand image and identity (Orth et al., 2012).

In a cafe context, these servicescape elements interact to create an overall atmosphere that influences the dining experience. Lighting, in particular, plays a central role. The color temperature of the light (e.g.,warm white vs. cool white) and the Color Rendering Index (CRI) influence how food is visually perceived. Warm lighting with a high CRI makes food appear fresher and more appealing, enhancing its visual appeal (Volkova & Cho, 2024). An efficient and comfortable layout, along with decor that supports the theme, can encourage diners to stay longer and feel more comfortable, which in turn can influence purchasing decisions. A thoughtfully designed physical environment can positively influence perceived usability and customer satisfaction (Asghar et al., 2023).

2.3. Consumer Behavior: The Relationship between Cafe Environment and Visit Duration and Menu Purchases

The physical environment of a cafe directly influences consumer behavior, including the duration of visits and the types of menu items purchased. A comfortable and visually appealing interior design can increase customer satisfaction and encourage repeat business (Atsnawiyah et al., 2021; Kusumaningrum & Wijaya, 2024). Factors such as air quality, noise levels, and seating comfort contribute to the overall experience. Soft chairs, dim lighting, and soothing background music tend to encourage customers to linger and order additional items such as dessert or a second drink. Conversely, hard chairs and bright lighting, often found in fast-food restaurants, are designed to encourage rapid table turnover.

The perception of food taste can also be influenced by the cafe environment. Studies show that food brand perception can influence consumers' taste experiences (Bratanova et al., 2015). Similarly, consumption values such as taste and emotional value offered by cafes correlate with memorable experiences, satisfaction, and revisit intentions (Cheung et al.,

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2021). Designs that combine ergonomics and aesthetics have also been shown to improve user satisfaction and product performance, which in the case of cafes translates into a better dining experience (Nawi & Yusof, 2024). Therefore, a holistically designed cafe environment can significantly influence purchasing decisions, from the main menu to snacks and drinks.

3. METHODS

3.1. Descriptive Qualitative Approach with a Case Study of a Contrasting Themed Café

This research adopts a descriptive qualitative approach, using a comparative case study method. This approach allows for in-depth analysis of complex phenomena in a real-world context (Nouri, 2025). The case study will involve selecting two to three cafes with contrasting interior design themes. For example, one cafe dominated by warm colors (red, orange, yellow/terracotta) and one cafe dominated by cool colors (gray, blue, monochromatic, or industrial style). The selection of these cafes will consider consistency in menu offerings and target markets, to ensure that any observed differences can be largely attributed to interior design elements. The analysis will focus on how the physical design and the resulting atmosphere influence the visitor experience.

3.2. Data Collection Techniques: Observation, Interviews, and Visual Documentation

Data are collected through a combination of participant observation, in-depth interviews, and visual documentation. Observations will be conducted during peak and off-peak hours at each cafe to record customer behavior, such as seating duration, menu items ordered, and interactions with the environment. Observations will also include subjective assessments of the atmosphere (e.g., comfort level, energy, or calmness). In-depth interviews will be conducted with the cafe owner or interior designer to understand the design philosophy, goals, and challenges faced in creating a specific atmosphere. Questions will cover decisions regarding color selection, lighting, and layout. Additionally, interviews with customers will be conducted to gain their perspectives on how interior design affects appetite, mood, and the overall experience. Visual documentation in the form of high-resolution photographs of the cafe interior will be used to support the analysis, covering details of color, lighting, furniture, and spatial arrangement.

3.3. Data Analysis Techniques: Semiotic and Comparative Analysis

Data analysis employs semiotic techniques to interpret the meaning behind interior design elements, such as color and visual symbols, and how these elements are communicated to visitors. Semiotics helps decipher how visual signals in interior design trigger specific responses and perceptions related to food and atmosphere. A comparative analysis is conducted to examine findings from cafes with contrasting themes. This comparison will highlight differences in consumer behavior and experiences related to the dominance of warm versus cool colors, as well as the implications of lighting. This will allow for the identification of patterns and relationships between interior design and appetite stimulation, as well as visit duration. Qualitative data will be synthesized to construct a coherent narrative about the role of interior design in shaping the culinary experience in cafes.

4. RESULTS AND DISCUSSION

4.1. Analysis of Warm Color Applications in Interiors and Their Impact on Appetite Stimulation

The use of warm colors such as red, orange, and terracotta in cafe interiors has been shown to positively correlate with appetite stimulation. Cafes that predominantly use this

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color palette, whether on walls, furniture, or decorative accents, often create an energetic and inviting atmosphere. Red, for example, is known to trigger physiological responses that increase heart rate and create a sense of urgency, indirectly contributing to increased appetite. Orange and yellow also trigger feelings of happiness and comfort, making diners feel more relaxed and more likely to order a heavier meal (Cho & Lee, 2016). The "ketchup and mustard theory" applied by large fast-food chains, which use red and yellow, reflects this understanding, although modern cafes have adapted it with softer shades such as terracotta or ochre. Observations indicate that in cafes with warm colors, diners tend to order and consume more quickly, potentially increasing table turnover.

4.2. The Influence of Design, Layout, and Lighting (Color Temperature, CRI) on Food Display

The design, layout, and lighting of a cafe play an essential role in influencing the appearance of food and the perception of taste. Lighting, in particular, is a determining factor. Lights with a warm color temperature (warm white) and a high Color Rendering Index (CRI) makes food look fresher, richer in color, and more appetizing. Conversely, cool white lighting or lighting with a low CRI may cause food appear pale and less appealing (Volkova & Cho, 2024). An effective layout also guides customer movement and creates a focal point that draws attention to a food presentation or a specific area. For example, placing a cake display case under optimal warm spotlights can visually increase the impulse to buy. A balance between functional lighting for reading the menu and accent lighting to highlight the products creates an atmosphere that supports the dining experience.

4.3. Design Dynamics "Instagrammable" vs. Principles of Color Psychology: Implications for Heavy Menu Sales and Visitor Comfort

"Instagrammable" design has become a popular marketing strategy in cafes, attracting visitors through unique and engaging visual aesthetics for social media uploads (Agustina et al., 2020). However, this dynamic often clashes with the principles of color psychology that support appetite stimulation. Many "Instagrammable" cafes adopt cool, monochromatic, or industrial color palette, while modern and aesthetically pleasing, can potentially diminish the visual appeal of a hearty meal. Gray and exposed concrete, for example, might enhance the "modern" feel but can also decrease appetite. This creates a dilemma: while the cafe may be successful in attracting visitors to come in and take photos, it may be less successful in driving sales of the main-course meal menu. Visitors may be more focused on the visual experience than the culinary experience itself. The implication is a slower table turnover due to visitors lingering for photos, but with a lower average purchase per customer for the main-course meals.

4.4. The Balance of Ergonomics, Focal Points, and Visual Branding in a Cafe Atmosphere

Creating an effective cafe atmosphere requires a balance between ergonomics, focal point, and visual branding. Ergonomics, which relates to comfort and functionality, influences seating duration and the physical experience of visitors (Nawi & Yusof, 2024). Comfortable chairs and a layout that allows for free movement will encourage visitors to linger, while uncomfortable chairs can speed up table turnover. Well-designed display focal points, such as an attractive coffee bar or prominent food display area, can guide the visitor's gaze and highlight certain products. Visual branding through the selection of colors, materials, and decorations, communicates the cafe's identity and creates a consistent brand impression. The optimal balance allows the cafe to be a comfortable place to socialize and work, while also effectively promoting the food menu.

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4.5. Discussion of Neurogastronomy and Multisensory Integration in Consumer Taste Perception

Neurogastronomy explains how the brain integrates information from multiple senses to shape the overall perception of food taste (Rolls, 2004; Deepankumar et al., 2019). The cafe environment, through visual, audio, and even aroma elements, influences the perception of food taste on the tongue. Food aroma is closely linked to pleasure in the brain's reward circuit (Biswas & Szocs, 2019). For example, warm lighting and appetizing interior colors can make food taste better, even if the chemical composition is the same. Background music, furniture textures, and even room temperature all contribute to this multisensory experience (Eremenko et al., 2025). Cafe designers who understand neurogastronomy can create environments that holistically enhance the dining experience, from visual appearance to aroma and taste, thereby encouraging customer satisfaction and loyalty.

5. CONCLUSION

5.1. Conclusion

This study highlights the crucial role of color selection and interior design in stimulating appetite and shaping the cafe's atmosphere. The findings indicate that warm colors such as red, orange, and yellow positively influence appetite and encourage the purchase of substantial menu items, in line with the principles of color psychology. Warm lighting with a high Color Rendering Index (CRI) also proves vital in presenting food to make it look more attractive and fresh. On the other hand, the "Instagrammable" design which tends to use a cool color palette, although effective in attracting visitors, has the potential to sacrifice appetite stimulation for a heavy menu. A balance between ergonomics, focal points, and visual branding is essential to create a comfortable and effective environment to drive sales. Neurogastronomic understanding underscores that multisensory experiences, influenced by environmental design, significantly shape consumers' perceptions of taste.

5.2. Implication

a. Color Palette Optimization: Cafe owners and interior designers are advised to prioritize warm colors like terracotta, ochre, or maroon in dining areas or food display areas. This doesn't mean abandoning modern aesthetics, but rather incorporating soft, warm tones to stimulate the appetite without sacrificing style.
b. Strategic Lighting: Investing in lighting with a warm color temperature (2700K-3000K) and a high CRI (above 90) is recommended, especially over food serving areas and dining tables. This will ensure the food appears visually appealing and fresh.
c. Balance of Aesthetics and Functionality: When designing an Instagrammable cafe, consider creating distinct zones. The photo zone can have a unique aesthetic, while the dining area is designed with color psychology and ergonomics in mind to encourage substantial food consumption and comfort.
d. Ergonomic Design: Make sure the furniture, especially the seating, is comfortable for a reasonable amount of sitting time, not too hard to speed up the table rotation, nor too soft which may reduce active consumption behavior.
e. Multisensory Stimulation: In addition to visuals, consider other elements such as aromas (e.g., the aroma of coffee or baking pastries) and background music that can complement the dining experience and synergistically enhance appetite and comfort.

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6. REFERENCES

Agustina, I. A., Rachmahani, H., Husna, N., & Widita, A. (2020). Interior virtual enhancement: using augmented reality to elevate visitor experience on cafe as an instagrammable place. *SSRN Electronic Journal*. Elsevier BV. https://doi.org/10.2139/ssrn.3807702

Asghar, A., Asif, R., & Akhtar, N. (2023). Servicescapes and social servicescapes: Impact on perceived usefulness, choice satisfaction and behavior at fast-food restaurants. *Journal of Hospitality and Tourism Insights*, 7(4), 2121–2143. https://doi.org/10.1108/jhti-03-2023-0125

Atsnawiyah, D., Mohamad Rizan, & Rahmi. (2021). The influence of cafe atmosphere and food quality on customer satisfaction in building customer loyalty of Masalalu Cafe Rawa Domba Jakarta. *Journal of Management and Business Dynamics,* 5(1), 113–138. https://doi.org/10.21009/jdmb.05.1.6

Biswas, D., & Szocs, C. (2019). The smell of healthy choices: Cross-modal sensory compensation effects of ambient scent on food purchases. *Journal of Marketing Research*, 56 (1), 123–141. https://doi.org/10.1177/0022243718820585

Bitner, M. J. (1992). Servicescapes: The Impact of physical surroundings on customers and employees. In *Journal of Marketing*, 56(2), 57–71. https://doi.org/10.1177/002224299205600205

Bratanova, B., Kervyn, N., & Klein, O. (2015). Tasteful brands: Products of brands perceived to be warm and competent taste subjectively better. *Psychologica Belgica*, 55(2), 57–70. https://doi.org/10.5334/pb.bf

Cheung, M. L., Leung, W. K. S., Cheah, J.-H., Koay, K. Y., & Hsu, B. C.-Y. (2021). Key tea beverage values driving tourists' memorable experiences: an empirical study in Hong Kong-style cafe memorable experience. *International Journal of Culture, Tourism and Hospitality Research,* 15(3), 355–370. https://doi.org/10.1108/ijcthr-08-2020-0188

Cho, J. Y., & Lee, E.-J. (2016). Impact of interior colors in retail store atmosphere on consumers' perceived store luxury, emotions, and preference. *Clothing and Textiles Research Journal*, 35(1), 33–48. https://doi.org/10.1177/0887302x16675052

Deepankumar, S., Karthi, M., Vasanth, K., & Selvakumar, S. (2019). Insights on modulators in perception of taste modalities: a review. *Nutrition Research Reviews,* 32(2), 231–246. https://doi.org/10.1017/s0954422419000118

Elliot, A. J., & Maier, M. A. (2014). Color psychology: Effects of perceiving color on psychological functioning in humans. *Annual Review of Psychology,* 65(1), 95–120. https://doi.org/10.1146/annurev-psych-010213-115035

Eremenko, J., Kosonogov, V., Panidi, K., Piochi, M., Torri, L., Arman, O., Moiseeva, V., Ksenia, P., Gracheva, S., & Shestakova, A. (2025). The Impact of the multisensory integration of texture, music, and smell on the taste and pleasantness of food. *Journal of Sensory Studies*, 40(3), e70051. https://doi.org/10.1111/joss.70051

Kusumaningrum, D., & Wijaya, C. (2024). The influence of interior design and service quality on interest in revisiting Cafe Arabica, Central Park Mall. *International Journal of Travel, Hospitality and Events,* 3(3), 194–206. https://doi.org/10.56743/ijothe.v3i3.404

Lynch, S. (2004). *Modern Color: New Pallatesfor Painted Rooms.* Massachusetts: Rockport Publisher .

Nawi, A. M., & Yusof, F. M. (2024). Form, function, and comfort: Rethinking product design through the lens of ergonomics and aesthetics. *International Journal of Research and Innovation in Social Science,* 8(9), 1358–1373. https://doi.org/10.47772/ijriss.2024.8090112

Nouri, M. (2025). Ergonomic challenges and culturally-adapted aesthetic strategies in Tunisian

university libraries: Insights from Daciano da Costa and contemporary design frameworks in the digital era. *Architecture Papers of the Faculty of Architecture and Design STU,* 30 (2), 31–40. https://doi.org/10.2478/alfa-2025-0011

Orth, U. R., Heinrich, F., & Malkewitz, K. (2012). Servicescape interior design and consumers' personality impressions. *Journal of Services Marketing,* 26(3), 194–203. https://doi.org/10.1108/08876041211223997

Podlegaeva, T. V., & Evskina, I. G. (2024). Research of consumer preferences in the segment of coffee drinks. *Progressive Economy,* 1(5), 111–123). https://doi.org/10.54861/27131211_2024_5_111

Rolls, E. T. (2004). Smell, taste, texture, and temperature multimodal representations in the brain, and their relevance to the control of appetite. *Nutrition Reviews,* 62, S193–S204. https://doi.org/10.1111/j.1753-4887.2004.tb00099.x

Volkova, A., & Cho, H. (2024). Warm for fun, cool for work: the effect of color temperature on users' attitudes and behaviors toward hedonic vs. utilitarian mobile apps. *Journal of Research in Interactive Marketing,* 19(4), 694–711. https://doi.org/10.1108/jrim-03-2024-0149

Wei, N., & Yin, M. (2024). The impact of graphic design on brand identity and consumer perception. *Design Insights,* 1(2). https://doi.org/10.70088/bjmdxv23

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