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Cultural Significance and Psycological Impact of Color Schemes on User Experience in Lagos Cultural Centers

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Abstract
This study investigates the cultural significance and psychological impact of color schemes on user experience in Lagos's cultural centers, focusing on a proposed architectural design. Through a mixed-methods approach, including surveys of 284 visitors and case studies of Terra Kulture and John Randle Center, the research identifies culturally resonant colorswhite, indigo (àdìrẹ blue), and yellow/goldand their psychological effects across diverse ethnic groups. Findings reveal that white and indigo evoke spirituality and heritage, particularly among Yoruba and Igbo respondents, while warm tones like yellow enhance engagement but risk overstimulation. Earthy and warmaccented schemes are most preferred for user comfort and cultural resonance. The study proposes integrating these colors through accent walls, textiles, and dynamic lighting to balance cultural authenticity with psychological well-being, offering a framework for designing inclusive cultural spaces in Lagos.

Keywords: Color Psychology, Cultural Significance, User Experience, Lagos Cultural Centers, Architectural Design, Psychological Responses

I. INTRODUCTION

Lagos, Nigeria's vibrant megacity, is a cultural mosaic defined by its Yoruba heritage, colonial history, and modern cosmopolitanism, and as the city navigates rapid urbanization, its architectural landscape must reconcile cultural identity with the psychological needs of its diverse population (Bigon, 2019). Cultural centers, as hubs for artistic expression and communal bonding, are pivotal in this endeavor, yet existing facilities like the National Theatre and Freedom Park often fail to leverage color psychologya critical design element influencing emotions, behaviors, and spatial engagement (Elliot & Maier, 2013). This research explores how culturally significant color schemes can enhance user experience and behavioral well-being in a proposed Lagos cultural center, addressing a gap in African architectural discourse where color is often applied aesthetically rather than strategically (Abraham & Ololade, 2021).

Color psychology of color, rooted in environmental psychology, posits that hues profoundly affect mood, cognition. Warm colors (reds, yellows) stimulate arousal, ideal for social spaces, while cool tones (blues, greens) induce calmness, suited for reflection (Awad et al., 2024). In Lagos, where urban stressors like noise pollution and overcrowding heighten stress, color can serve as a restorative tool (Ajaero, 2024). Moreover, colors carry cultural weight: indigo (àdìrẹ) symbolizes Yoruba craftsmanship, while white denotes spirituality (Ofosu-Asare, 2024). The problem is further compounded by Lagos's urban dynamics, where rapid urbanization, noise pollution, and sensory overload contribute to stress and reduced communal engagement (Auwalu & Bello, 2023). While global precedents (e.g., BOMA Cultural Center, France, Huang Pu Cultural Center, China) showcase the intentional use of color to evoke specific emotional and behavioral responses (Zhang & Kim, 2023).

Existing cultural facilities, such as the National Theatre and Freedom Park, primarily focus on functional and aesthetic aspects of design while neglecting the psychological impact of spatial elements, particularly color psychology, on visitors (Mfon, 2023).

This study aims to investigate how culturally significant color schemes in architectural design can enhance user experience and behavioral well-being in Lagos's cultural centers. Its objectives are to:

i. Identify color schemes that are culturally significant and resonate with the Lagos community.
ii. Examine the psychological responses of Lagos's diverse demographic groups (age, cultural background) to different color schemes.
iii. Identify which color scheme most significantly affects user experience in cultural centers.

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II. LITERATURE REVIEW

2.1. Cultural and Entertainment Buildings in Lagos, Nigeria

Cultural centers globally serve as platforms for artistic expression, education, and social cohesion, evolving from ancient amphitheaters like the Theatre of Dionysus to modern icons like the Sydney Opera House (Law-Bo-Kang, 2023). In Nigeria, precolonial spaces like Yoruba palace courtyards and Hausa Emir's palaces hosted festivals and storytelling, using local materials and organic layouts to foster communal interaction (Mfon, 2023). Colonial era venues like Glover Memorial Hall introduced Western-style theaters, while post-independence projects like the National Arts Theatre (1977) symbolized cultural nationalism through modernist design (Adewale &Odewumi, 2024). Contemporary efforts, such as Freedom Park and John Randle Center, blend heritage with modern functionality, yet often neglect color's psychological potential (Oladejo, 2022).

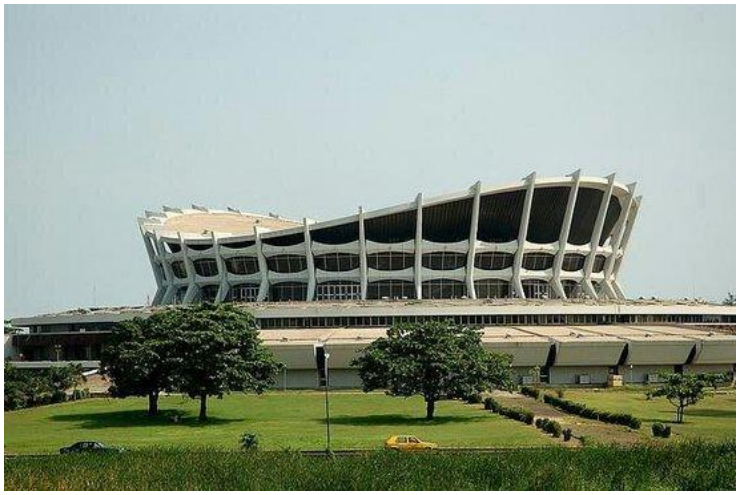

Figure 2: National Arts Theatre, Lagos
Source: national arts theatre - Lagos Link

2.2. Features of Cultural and Entertainment Buildings

Cultural and entertainment buildings share distinct architectural and functional characteristics that enable them to fulfill their roles as spaces for artistic expression, social interaction, and communal engagement(Chechel et al., 2023). While their designs vary based on cultural context and programmatic needs, several key features are commonly integrated to enhance usability, aesthetics, and visitor experience(Votinov& Smirnova, 2021). Table 1 shows a breakdown of these essential features, categorized for clarity.

Table 1: General Features of Cultural and Entertainment Buildings

Feature Category	Specific Features	Description	Design Considerations
Spatial Organization	Flexible Layouts	Adaptable spaces for multiple event types (performances, exhibitions, workshops)	Movable partitions, modular furniture
	Zoning (Public/Private Areas)	Clear separation of visitor-accessible and staff/backstage areas	Controlled access points, signage
Acoustics & Sound Management	Soundproofing	Minimized noise leakage between spaces	Double-wall construction, acoustic panels
	Optimized Audio Systems	High-fidelity sound distribution for performances	Speaker placement, sound-absorbing materials
Lighting Design	Natural Light	Use of skylights, clerestories for	UV-filtering glazing,

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	Integration	daylighting	adjustable blinds
	Dynamic Artificial Lighting	Programmable LED systems for mood-setting and events	Energy efficiency, color temperature control
Cultural Aesthetics	Indigenous Material Use	Local materials (laterite, timber, adobe) for cultural authenticity	Weather-resistant treatments
	Symbolic Motifs & Color Schemes	Integration of traditional patterns and culturally significant hues	Color psychology principles (see Chapter 2.3)
User Comfort & Accessibility	Seating Ergonomics	Tiered, cushioned, or flexible seating arrangements	Sightline calculations, lumbar support
	Universal Design	Ramps, tactile guides, and assistive technologies for inclusivity	ADA/WCAG compliance

Source: Author, 2025

2.3. Color Psychology and Cultural Entertainment Buildings

The intersection of color psychology and cultural/entertainment architecture represents a critical nexus where sensory perception, emotional resonance, and cultural identity converge to shape user experience. This relationship operates on multiple levels, physiological, psychological, and socio-cultural, each influencing how spaces are perceived, utilized, and remembered.

At a fundamental level, color directly impacts human neurobiology. Warm hues (reds, oranges) stimulate the autonomic nervous system, increasing heart rate and arousal, a principle leveraged in entertainment venues like nightclubs to energize patrons. Conversely, cool tones (blues, greens) activate parasympathetic responses, reducing stress; museums like the Louvre Abu Dhabi employ this in gallery design to facilitate contemplative viewing(Sroykham et al., 2014).

Colors also acquire layered meanings through cultural practice, requiring architects to navigate local semiotics. In Nigeria, indigo (àdìrè) signifies Yoruba heritage and spiritual protection, making it a strategic choice for wayfinding in cultural centers like Terra Kulture. Conversely, white, while globally associated with purity, represents mourning in some African contexts, a critical distinction for memorial spaces. Entertainment venues targeting tourists must balance universal color associations (blue for trust) with local symbolism; the John Randle Center reconciles this by using muted gold accents to reference Yoruba royalty without overwhelming international visitors.

Strategic color zoning guides user behavior intuitively:

i. Performance Venues: Red stage backdrops (Afrika Shrine, Lagos) enhance performer visibility and audience focus through wavelength dominance.
ii. Exhibition Spaces: Neutral walls (70% N9 gray) at Nike Art Gallery prevent visual competition with artworks while directional color accents (e.g., violet floor stripes) guide flow.
iii. Transitional Areas: Earth-toned thresholds in Freedom Park's outdoor amphitheater ease the shift from bustling city to cultural oasis, leveraging color's subconscious priming effects.

In terms of atmospheric storytelling and emersion, Entertainment architecture increasingly uses chromatic narratives to enhance thematic immersion. The Dubai Opera employs a gradient from desert beige to deep blue in its lobby, evoking regional landscapes. Similarly, Lagos's proposed cultural center could sequence colors to mirror narrative arcs, cool blues in pre-show lounges (calm), transitioning to energetic reds in festival halls (excitement), and restorative greens in post-event cafés (recovery). This "color choreography" aligns with Mehrabian's PAD model (Pleasure-Arousal-Dominance), structuring emotional cadence.

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Figure 2.5: Behavioral Nudging of Colors
Source: Colors in Storytelling

2.4. Gaps in Literature

The existing literature on color psychology and cultural architecture provides a robust foundation for understanding the psychological and physiological impacts of color in built environments, yet it reveals critical gaps, particularly in the context of African urban settings like Lagos. While global studies, such as those by Elliot and Maier (2014) and Meerwein et al. (2007), have established universal principles of color perception demonstrating how warm hues like red stimulate arousal and cool tones like blue promote calmness. In Lagos, a city defined by its Yoruba dominated cultural heritage and diverse ethnic composition, there is a noticeable absence of empirical research exploring how culturally significant colors, such as indigo (àdìrẹ) or white, resonate psychologically and socially with local communities. The literature frequently overlooks the interplay between indigenous color symbolism and architectural design, with studies like Ofosu-Asare (2024) addressing African aesthetics broadly but failing to delve into specific urban applications or their psychological outcomes. Furthermore, while global precedents like the BOMA Cultural Center in France showcase intentional chromatic design, there is scant documentation on how such strategies translate to tropical climates with unique environmental challenges, such as Lagos's high humidity and intense sunlight, which affect pigment durability and maintenance. Existing research also tends to prioritize architectural elements like acoustics or spatial planning in cultural buildings, as noted by Abraham and Ololade (2024), sidelining the role of color in shaping long-term user behavior, emotional well-being, and cultural identity. There is insufficient investigation into adaptive reuse strategies for incorporating traditional colors into modern structures, a critical consideration for sustainable urban development in rapidly growing megacities.

III. METHODOLOGY

3.1. Research Design

This study adopts an explanatory sequential mixed-methods design that systematically integrates quantitative and qualitative approaches to comprehensively examine the research objectives. The research design unfolds in three carefully structured phases, each serving distinct yet complementary purposes in addressing the study's objectives.

The study targeted two case study analysis of two prominent cultural centers in Lagos: Terra Kulture and the John Randle Center for Yoruba Culture and History, to examine their application of color psychology in architectural design and its impact on user experience.

3.1.1. Terra Kulture

Figure 3.1: Terra Kulture Arena
Source:

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Terra Kulture, located in Victoria Island, serves as a vibrant hub for Nigerian arts, language, and cultural education.

3.1.2. John Randle Center

Figure 3.2: John Randle Center
Source:

The John Randle Center, situated in Onikan, presents a more contemporary interpretation of Yoruba cultural heritage through its architecture. Its color strategy combines modern

3.2. Population

The study population comprises the diverse user groups of the two selected case studies, Terra Kulture and John Randle Center for Yoruba Culture and History. While the exact number of users is undocumented, both institutions attract substantial visitor numbers, with Terra Kulture receiving an estimated 50,000 annual visitors and John Randle Center approximately 30,000, based on available attendance records and management reports. This large, heterogeneous population includes several distinct user categories that are particularly relevant to the research objectives.

3.3. Sample Size Calculation

Since the total population is unknown, a sample size formula is required for the quantitative survey. Cochran's formula is applied to determine the minimum required sample size:

$$n_0 = \frac{Z^2 \times p \times (1-p)}{E^2}$$

Where: Z=1.96(for 95% confidence level); p=0.5 (assumed proportion of the population with relevant characteristics); E=0.05(margin of error)

$$n_0 = \frac{(1.96)^2 \times 0.5 \times (1-0.5)}{(0.05)^2}$$

$$n_0 = \frac{3.8416 \times 0.25}{0.0025}$$

$$n_0 = \frac{0.9604}{0.0025}$$

$$n_0 = 384.16$$

$$n_0 \approx 384$$

Thus, the minimum sample size for the survey is 384 respondents.

3.4. Data Collection Method

A structured questionnaire was administered to 284 visitors at Terra Kulture and John Randle Center, capturing demographic data (age, ethnicity, occupation), color associations, psychological responses, and preferences for cultural center design. The questionnaireadopts a mixed-format approach, combining closed-ended and open-ended questions to gather both quantitative and qualitative data. The case studies, Terra Kulture and John Randle Center were analyzed for their color strategies, user feedback, and cultural resonance.

3.5. Data Analysis

This section outlines the quantitative and qualitative data analysis procedures to be conducted using SPSS (Statistical Package for the Social Sciences). The analysis is structured according to the three research objectives, employing appropriate statistical tests and thematic coding techniques to derive meaningful insights.

Table 3.1: Data Analysis Plan by Research Objective

Objective	Analysis Type	Statistical Method/Tool	Variables Involved	Output Interpretation
Identify culturally significant color schemes	Descriptive & Inferential	- Frequency Distribution (Q4) - Chi-square Test (Q4 x Q1–Q3)	- Cultural color associations (Q4) - Demographics (Q1–Q3)	- Most/least selected colors. - Variations by age/ethnicity.
Examine psychological responses to	Comparative & Correlational	- ANOVA (Q6 x Q1–Q3) - Mean	- Emotional ratings (Q6) - Demographics	- Significant differences in emotional responses

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colors		Scores (Q6)	(Q1–Q3)	across groups. - Highest/lowest-rated colors.
Identify color schemes affecting user experience	Descriptive & Predictive	- Friedman Test (Q8 rankings) - Cross-tabulation (Q9 x Q8)	- Color scheme preferences (Q8) - Color-induced discomfort (Q9)	- Most/least preferred schemes. - Discomfort linked to specific colors.

Source: Author, 2025

3.6. Ethical Considerations

This study will be conducted in strict compliance with ethical research principles as outlined by the Caleb University Lagos Ethical Clearance Committee (CULREC) and international standards for human participant research. Prior to commencement, the study protocol will undergo rigorous review and receive formal approval from CULREC, which will evaluate potential risks, benefits, and safeguarding procedures. Informed consent will be obtained from all participants through written documentation that clearly explains the study's purpose, procedures, and participants' rights.

3.7. Limitations

The study's reliance on self-reported data may introduce response bias, and the focus on two case studies limits generalizability. Lagos's tropical climate, with high humidity and sunlight, poses maintenance challenges for vibrant pigments, an area underexplored due to budgetary constraints.

IV. FINDINGS AND DISCUSSION

This chapter presents the results of the data collected from respondents and provides a comprehensive analysis aligned with the research objectives. Drawing on both descriptive and inferential statistics, the chapter interprets how different color schemes influence user experience, engagement, and comfort within cultural and youth-oriented spaces. Through frequency tables, bar charts, cross-tabulations, Friedman tests, chi-square tests, and regression analyses, the chapter critically evaluates patterns in user preferences, discomfort levels, and the perceived functionality of color applications.

4.1. Demographic Analysis of Respondents

Demographic analysis is crucial in understanding how different user groups may perceive and interact with culturally expressive architectural spaces. The diversity in age, cultural background, and occupation among respondents forms the basis for interpreting their psychological and aesthetic responses to colour use in cultural centers. Tables 1–3 provide a breakdown of these demographic distributions.

Table 4.1: Frequency table of respondents Age group

	N	%
Under 18	18	6.3%
18-30	94	33.1%
36-45	150	52.8%
46-60	15	5.3%
Above 60	7	2.5%

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Table 4.1 show that most respondents fall within the 36–45 age bracket, representing 52.8% of the sample. This group is followed by the 18–30 age group (33.1%), while smaller proportions are observed in the under-18 (6.3%), 46–60 (5.3%), and above-60 (2.5%) categories.

Table 4.2: Frequency table of Respondents' Cultural/ethnic background

	N	%
Yoruba	119	41.9%
Igbo	100	35.2%
Hausa	22	7.7%
Ijaw	15	5.3%

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Rivers	6	2.1%
Niger delta	6	2.1%
Isoko	2	0.7%
Edo	10	3.5%
Ikwere	2	0.7%
Opameri	2	0.7%

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

As shown in Table 4.2, the respondents are largely from Nigeria's three major ethnic groups: Yoruba (41.9%), Igbo (35.2%), and Hausa (7.7%). Minority groups, including Ijaw, Rivers, Niger Delta, Isoko, Edo, Ikwere, and Opameri, account for the remaining percentage.

Table 4.3: Frequency distribution of Respondents Occupation

	N	%
Student	53	18.7%
Creative Professional (Artist, Architect, Designer)	52	18.3%
Corporate Worker	132	46.5%
Government/Civil Service	7	2.5%
Entrepreneur	40	14.1%

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Table 4.3 reveal that corporate workers make up the largest share of respondents (46.5%), followed by students (18.7%), creative professionals (18.3%), entrepreneurs (14.1%), and a small fraction in civil service (2.5%). This distribution reflects a varied occupational landscape, with a notable balance between formal sector employees and individuals in creative or entrepreneurial professions.

4.2. Objective I: Identify colour schemes that are culturally significant and resonate with the community in Lagos.

To fulfill Objective I, descriptive statistical analyses (frequency and percentage distribution) were used. This approach is appropriate because the variables under study, colour associations and perceived importance of culturally symbolic colours, are categorical and aim to reveal patterns of cultural meaning attached to colours in the minds of Lagos residents.

Table 4.4: Descriptive distribution of Culturally Associated Colours in Lagos

		Responses		
		N	Percent	Percent of Cases
Colours_associated_with[a]	Earthy Brown/Ochre	123	16.2%	43.3%
	White (e.g., traditional attire)	197	26.0%	69.4%
	Deep Red (ògún)	125	16.5%	44.0%
	Bright Yellow/Gold	145	19.2%	51.1%
	Indigo (àdìrẹ blue)	167	22.1%	58.8%
Total		757	100.0%	266.5%
a. Dichotomy group tabulated at value 1.				

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Results revealed that white (69.4%), indigo (àdìrẹ blue, 58.8%), bright yellow/gold (51.1%), deep red (44.0%), and earthy brown/ochre (43.3%) were most associated with Lagos's cultural identity. White, linked to Yoruba ceremonial attire, symbolized purity and spirituality, while indigo reflected adire textile traditions (Ofosu-Asare, 2024). Yellow/gold and red evoked wealth and bravery, respectively, aligning with Yoruba cosmology.

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Table 4.5: Importance of Yoruba Colours

		Frequency	Percent	Cumulative Percent
Valid	Very Important	167	58.8	58.8
	Important	63	22.2	81.0
	Neutral	49	17.3	98.2
	Somewhat Important	5	1.8	100.0
	Total	284	100.0	

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Table 4.5 shows that 81% of respondents rated Yoruba colors as "Very Important" or "Important" for architectural integration, underscoring their cultural centrality.

4.3. Objective II: Examine the psychological responses of Lagos's diverse demographic groups to the different colour schemes.

Table 4.6: Statistical Significance Across Groups (ANOVA Results)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Feelings_Deep_Red	Between Groups	43.587	9	4.843	5.378	.000
	Within Groups	246.761	274	.901		
	Total	290.349	283			
Feelings_Cool_Blue	Between Groups	94.026	9	10.447	8.503	.000
	Within Groups	336.661	274	1.229		
	Total	430.687	283			
Feelings_Warm_Yellow	Between Groups	88.658	9	9.851	8.442	.000
	Within Groups	319.737	274	1.167		
	Total	408.394	283			
Feelings_Earthy_Green	Between Groups	74.224	9	8.247	8.297	.000
	Within Groups	272.350	274	.994		
	Total	346.574	283			

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Table 4.6 shows that psychological responses to colors varied significantly by ethnicity ($p < 0.001$).

Table 4.7: Descriptive statistics highlighting the substantial inter-ethnic variation in colour preferences

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Feelings_Deep_Red	Yoruba	119	2.20	1.005	.092	2.02	2.38	1	5
	Igbo	100	2.05	.702	.070	1.91	2.19	1	5
	Hausa	22	2.41	1.008	.215	1.96	2.86	1	4
	Ijaw	15	2.73	1.387	.358	1.97	3.50	1	5
	Rivers	6	3.50	.548	.224	2.93	4.07	3	4
	Niger delta	6	3.50	1.643	.671	1.78	5.22	2	5
	Isoko	2	3.00	.000	.000	3.00	3.00	3	3
	Edo	10	3.20	1.317	.416	2.26	4.14	2	5
	Ikwere	2	3.00	.000	.000	3.00	3.00	3	3
	Opameri	2	4.00	.000	.000	4.00	4.00	4	4
	Total	284	2.31	1.013	.060	2.19	2.42	1	5
Feelings_Cool_Blue	Yoruba	119	2.34	1.224	.112	2.12	2.57	1	5
	Igbo	100	1.89	1.163	.116	1.66	2.12	1	5

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	Hausa	22	2.73	.456	.097	2.53	2.93	2	3
	Ijaw	15	3.47	.990	.256	2.92	4.02	2	5
	Rivers	6	2.50	.548	.224	1.93	3.07	2	3
	Niger delta	6	4.50	.548	.224	3.93	5.07	4	5
	Isoko	2	5.00	.000	.000	5.00	5.00	5	5
	Edo	10	2.90	.738	.233	2.37	3.43	2	4
	Ikwere	2	4.00	.000	.000	4.00	4.00	4	4
	Opameri	2	3.00	.000	.000	3.00	3.00	3	3
	Total	284	2.38	1.234	.073	2.23	2.52	1	5
Feelings_Warm_Yellow	Yoruba	119	2.09	1.221	.112	1.87	2.31	1	5
	Igbo	100	1.69	1.080	.108	1.48	1.90	1	5
	Hausa	22	2.23	.685	.146	1.92	2.53	1	3
	Ijaw	15	3.60	.986	.254	3.05	4.15	2	5
	Rivers	6	2.00	.000	.000	2.00	2.00	2	2
	Niger delta	6	4.00	.000	.000	4.00	4.00	4	4
	Isoko	2	3.00	.000	.000	3.00	3.00	3	3
	Edo	10	2.10	.738	.233	1.57	2.63	1	3
	Ikwere	2	4.00	.000	.000	4.00	4.00	4	4
	Opameri	2	4.00	.000	.000	4.00	4.00	4	4
	Total	284	2.11	1.201	.071	1.97	2.25	1	5
Feelings_Earthy_Green	Yoruba	119	2.97	1.089	.100	2.77	3.16	1	5
	Igbo	100	2.58	.966	.097	2.39	2.77	1	5
	Hausa	22	2.64	.902	.192	2.24	3.04	1	4
	Ijaw	15	3.93	1.100	.284	3.32	4.54	2	5
	Rivers	6	3.00	.000	.000	3.00	3.00	3	3
	Niger delta	6	4.00	.000	.000	4.00	4.00	4	4
	Isoko	2	5.00	.000	.000	5.00	5.00	5	5
	Edo	10	4.30	.823	.260	3.71	4.89	3	5
	Ikwere	2	4.00	.000	.000	4.00	4.00	4	4
	Opameri	2	5.00	.000	.000	5.00	5.00	5	5
	Total	284	2.96	1.107	.066	2.83	3.09	1	5

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Deep red was highly significant for Yoruba (mean = 2.20) and Igbo (mean = 2.05), evoking power and protection, but less so for Ijaw (mean = 2.73) and Rivers (mean = 3.50). Cool blue garnered mixed reactions, with Yoruba (mean = 2.34) and Igbo (mean = 1.89) rating it positively, while Niger Delta (mean = 4.50) found it more meaningful. Warm yellow was strongly valued by Ijaw (mean = 3.60) and Niger Delta (mean = 4.00), symbolizing energy, but less so by Igbo (mean = 1.69). Earthy green resonated with Isoko (mean = 5.00) and Edo (mean = 4.30), suggesting a connection to nature.

4.4. Objective III: Identify which colour scheme mostly affects user experience in cultural centers.

Summary

i. Earthy Tones 45.8%

ii. Warm Accents 44.4%

iii. Cool Muted Tones 43.3%

iv. Bold Contrast Colours 35.6%

Earthy tones were ranked most preferred, closely followed by warm accents and cool muted tones. Bold contrast schemes, while still favoured by over a third of respondents, were the least preferred overall.

The Friedman test was employed to compare the ranked preferences across four colour schemes because the same respondents rated each scheme on an ordinal scale. It tests whether differences in rankings are statistically significant.

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Table 4.8: Friedman Test – Ranking Significance

Ranks	
	Mean Rank
Lobby_Pref_Bold_Contrast	2.58
Lobby_Pref_Earthy_Tones	2.38
Lobby_Pref_Cool_Muted	2.51
Lobby_Pref_Warm_Accents	2.53

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Since $p > 0.05$, the differences in rankings were not statistically significant, though slight preferences still emerged. While not definitive, the trends suggest moderate user consensus around earthy and warm palettes, with bold contrast least favored.

Table 4.9: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	28.365[a]	9	.001
Likelihood Ratio	32.151	9	.000
Linear-by-Linear Association	2.154	1	.142
N of Valid Cases	284		
a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .72.			

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Results from Table 4.8 show Pearson Chi-Square = 28.365, df = 9, p = 0.001, and Likelihood Ratio = 32.151, p = 0.000

A significant association exists between colour discomfort and cultural/ethnic background, indicating that colour sensitivity and expectations are culturally mediated.

4.5. Cultural Resonance of Colours

The prominence of white, indigo, and yellow/gold reflects Lagos's Yoruba-dominated cultural landscape, where colors are semiotic, conveying spiritual and social meanings (Ofosu-Asare, 2024). White's association with purity aligns with its use in Eyo Festival attire, while indigo's adire heritage underscores craftsmanship. These findings extend global color symbolism research by grounding it in African contexts, addressing a literature gap noted by Mfon (2023). The strong preference for Yoruba colors suggests that cultural centers must prioritize local symbolism to foster identity and belonging.

V. CONCLUSION & RECOMMENDATIONS

5.1. Conclusion

The research demonstrates that culturally significant color schemes, particularly white, indigo, and yellow/gold, play a pivotal role in enhancing user experience and behavioral well-being in Lagos's cultural centers. These colors, deeply rooted in Yoruba heritage, resonate strongly with local communities, fostering a sense of identity and belonging. Psychological responses vary across ethnic groups, with warm tones driving engagement and earthy tones promoting comfort, though vibrant hues must be moderated to avoid discomfort. By drawing on case studies of Terra Kulture and John Randle Center, the study highlights the efficacy of strategic color zoning and dynamic lighting in creating adaptive, emotionally resonant spaces. These findings address a critical gap in African architectural discourse, providing evidence-based guidelines for designing cultural centers that harmonize Lagos's rich heritage with the psychological needs of its diverse population, contributing to sustainable urban cultural development.

5.2. Recommendations

i. Integrate Culturally Significant Colors**:** Use white, indigo, and yellow/gold as accent walls or art installations to reflect Yoruba heritage, ensuring cultural resonance without overwhelming spaces.
ii. Implement Zonal Color Choreography**:** Apply warm yellows in performance areas for arousal, cool blues in lounges for calm, and earthy greens in restorative zones, using dynamic LED lighting to adjust moods.
iii. Balance Vibrancy and Comfort**:** Limit high-chroma colors to accents against neutral bases to prevent discomfort, ensuring engagement while maintaining visual ease.

iv. Design for Multicultural Inclusivity**:** Combine Yoruba-preferred indigo and Igbo-favored red with Ijaw-preferred yellows to cater to diverse ethnic groups, using community workshops for inclusive design input.
v. Address Environmental Durability**:** Select UV-resistant paints and modular fabrics to maintain vibrant colors in Lagos's tropical climate, reducing maintenance costs and ensuring longevity.
vi. Conduct Post-Occupancy Evaluations**:** Use surveys and observational studies to assess color impacts on user engagement, refining designs based on real-world feedback.

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