

THE PSYCHOLOGICAL IMPACT OF ARCHITECTURAL BEAUTY ON URBAN WELL-BEING: A STUDY OF KATSINA RESIDENTS' PERCEPTIONS

Arch Tech. Abdulmalik Almu Gafai¹, Arch Tech. Muhammad Nasir Gidado²,
Mohammed Usman³

^{1,2}Department of Architectural Technology, Hassan Usman Katsina Polytechnic, P.M.B 2052, Katsina State, Nigeria.

³Quality Assurance Department, National Board for Arabic and Islamic Studies, Zone II Katsina Katsina State, Nigeria.

Corresponding E-mail Address: abdulmalikgafai@gmail.com

ABSTRACT

This study investigates the psychological impact of architectural beauty on urban well-being, focusing on the perceptions of residents in Katsina Metropolis, Nigeria. With increasing urbanization, understanding the influence of architectural aesthetics on mental health and quality of life has become essential for developing supportive and health-promoting urban environments. The research explores how architectural elements, including design, natural lighting, air quality, and spatial arrangement, impact residents' mental and emotional health. Findings suggest that aesthetically pleasing architectural designs contribute to reduced stress levels, improved mood, and enhanced satisfaction with urban living spaces. The study also identifies cultural alignment and environmental quality as critical factors in promoting positive psychological responses to architectural aesthetics. Recommendations include incorporating local cultural values into design practices and emphasizing aesthetics and functionality to support well-being. These insights aim to inform architects, urban planners and policymakers to foster sustainable, psychologically supportive urban environments in Katsina and similar settings.

Keywords: Architectural Beauty; Urban Well-Being; Katsina Residents.

1. INTRODUCTION

This research explores the relationship between architectural beauty and urban well-being, focusing on the psychological aspects. With the rapid urbanization globally, understanding how architectural aesthetics influence human well-being is crucial for designing healthier urban environments. Research suggests that if houses are designed to encompass every aspect of an ideal living environment, it could serve as a significant milestone in reducing the stress and mental anguish experienced by individuals after a day's work. It is estimated that such well-designed living spaces could potentially alleviate up to 70% of the stress and mental strain individuals commonly face when returning home at the end of the day (Gross, 2015). Somewhere amidst the intricate process of advancing our living spaces, cities, and roadways, we have become excessively fixated on the prowess of machines and the pursuit of novel building techniques and cheaper materials. (Calame, 2019). Numerous forces shape the neighborhoods, influencing the series of experiences they offer through their design. These experiences can be categorized into four dimensions. Firstly, residents within these neighborhoods encounter views and vistas both from within their homes and of the surrounding amenities. Secondly, residents are impacted by the effects of their environment on their behavior, mood, and psychological well-being, influencing their mind, body, and soul. Thirdly, visitors experience the transition from the exterior environment to the interior spaces. Lastly, passers-by perceive the identity emitted by these neighborhoods (Candill, 1978). In both rural and urban settings, boundaries characterized by uninterrupted straight lines often appear stark and devoid of vitality. However, when lines, shapes, forms, and spaces are imbued with attributes such as movement, vitality, harmony, gesture, and the resolution of dynamic forces, they have the power to infuse life and influence into the built environment. While these qualities are typically associated with curves, they can also be attained through a thoughtful interplay of hand-drawn straight lines (Lang, 1987). Aesthetic responsibilities extend beyond mere visual and sensory experiences to encompass the intangible yet perceptible spirit of a place. For a place to be truly healing, it must embody harmony. This entails facilitating change as a natural progression, so that new structures do not appear as intrusive elements but instead seamlessly integrate with their surroundings, responsive to the environment. Healing also involves addressing invisible responsibilities such as minimizing off-site pollution. However, places and buildings must go beyond these considerations; they must be conducive to the holistic well-being of human beings. Therefore, during the design process, careful consideration must be given to the fact that architecture has the potential to either support or detrimentally impact physical and mental health (Christopher, 1990).

1.1 Perception of Environmentally Sustainable Design (ESD) Among Nigerian Architects and Building Owners

This study examines the perceptions of Nigerian architects and building owners regarding environmentally sustainable design (ESD) practices. Architects, building owners, and other key stakeholders in the construction industry are crucial in designing buildings that reduce environmental impact, enhance energy efficiency, and improve user comfort. However, despite the recognized advantages of ESD, research has shown that only a small number of buildings in Nigeria incorporate sustainable design elements (Adaji et al., 2017; Okafor, 2018; Oyefusi & Adeyemo, 2019). While the limited adoption of ESD cannot be entirely blamed on architects, they play a pivotal role in the design and construction of buildings. Their involvement spans from conceptualization to completion, making them key players in reducing energy consumption and environmental impact (Time, 2017). The architect's responsibility is more critical than in any other profession within the building industry.

The original aim of this research was to develop a sustainable design tool to improve thermal comfort. However, a review of the literature revealed that such tools already exist within the Nigerian context. Therefore, the focus shifted to understanding why these tools are not widely adopted and identifying the barriers to their implementation. Initially, the investigation centered on architects' perceptions of ESD, but it later expanded to include building owners due to their significant role in the decision-making process during design and construction. The study found that, beyond other influencing factors, a lack of knowledge was a major obstacle to the widespread adoption of ESD in Nigeria. Previous research also indicates a persistent preference for unsustainable design methods in the Nigerian building industry (Akagwu, 2017; Elum & Momodu, 2017; Okafor, 2018).

1.2 Barriers to Adopting Environmentally Sustainable Design in Nigeria's Building Industry

A significant challenge to implementing Environmentally Sustainable Design (ESD) in Nigeria is the lack of appropriate technology. To develop renewable energy systems, such as solar panels and wind turbines, and to build energy-efficient technologies like smart lighting and automated windows, advanced technology is required. Additionally, designing responsive building envelopes to improve thermal comfort and energy efficiency is crucial (Abdul Majid & Hussaini, 2015; Wojuola & Alant, 2017). A study by Dalibi et al. (2017), involving 480 professionals in Nigeria's building industry, revealed that the lack of technological development is a major barrier to ESD. This issue is linked to insufficient research and development (R&D) in energy efficiency and a lack of significant investment in renewable energy technologies. Economic factors also play a role in the slow adoption of ESD. These include the absence of government financial incentives, reluctance from banks and financial institutions to fund renewable energy projects, and the tendency of Nigerians to prioritize short-term financial gains over the long-term benefits of sustainable design (Abdul Majid & Hussaini, 2015; Dalibi et al., 2017; Nii Addy et al., 2014). Social factors further hinder the widespread use of ESD. Asekun-Olarinmoye et al. (2014) found that a third of the respondents in their study believed that climate change and global warming were acts of divine punishment for humanity's sins. Additionally, in Nigeria, social status can influence building design choices, with many viewing large homes, air conditioning units, and frequent generator use as symbols of wealth (Comaroff & Comaroff, 1993; Forbes, 2015). For some, energy efficiency is less important than maintaining a social image. Political barriers also impede the adoption of ESD. According to Edomah (2016), policy inconsistencies, poor standards, and a lack of regulatory enforcement contribute to the limited promotion of sustainable building practices. Government inaction, in terms of providing incentives for building owners or supporting R&D, further limits ESD's reach (Abdul Majid & Hussaini, 2015). Research on the reasons architects and building owners either adopt or avoid ESD in Nigeria is limited, especially in terms of understanding their perceptions and preferences (Abdul Majid & Hussaini, 2015; Dalibi et al., 2017; Wojuola & Alant, 2017). Sustainable solutions to environmental problems are gaining global attention, especially within the built environment. Sustainability is regularly discussed and addressed at international forums, with the World Commission on Environment and Development (WCED, 1987) defining it as development that meets present needs without compromising the ability of future generations to meet theirs. This idea has evolved into the Sustainable Development Goals (SDGs), a global agenda aimed at reducing poverty, improving health, and promoting clean energy, among other objectives (GA & UN, 2015). In the built environment, sustainability assessment tools have become standard for evaluating buildings' socio-economic and environmental aspects, encouraging the adoption of green practices in building codes worldwide (Zhang, Kang, & Jin, 2018).

1.3 The Mental Health Impacts of Urban Living and the Role of Urban Design

Cities provide various opportunities for work, recreation, environmental space, and public interaction through art, architecture, and open spaces. However, research indicates that urban living is linked to an increased prevalence of mental health disorders. A study by Peen et al. (2010) found that living in urban areas is associated with a rise in mood disorders by up to 39%, an increase in anxiety disorders by 21%, a doubling of the risk of schizophrenia, and heightened addictions to cocaine and heroin. While multiple factors contribute to these mental health challenges, it is evident that city life can negatively affect mental well-being. Social and political issues also influence mental health, but urban

planners and architects have a responsibility to design buildings, streets, and public spaces that promote mental health. The World Health Organization's Comprehensive Mental Health Action Plan highlights the importance of improving global mental health, and with 68% of the world's population expected to live in urban areas by 2050 (UN, 2018), this issue requires global attention.

1.4 Enhancing Social Interaction and Safety Through Urban Design

Social interaction is a crucial component of mental well-being, and urban design can facilitate this by concentrating people in shared spaces. High-density developments and mixed-use areas promote consistent foot traffic, fostering social interaction. A study by Francis et al. (2012) in Western Australia found that the quality of open spaces, not just their quantity, contributed to better mental health. Well-designed open spaces proved more beneficial than multiple poorly designed ones, as they were more likely to attract people and encourage interaction.

The infamous Pruitt-Igoe housing project demonstrates the importance of locating social housing near public spaces to encourage physical activity (Heathcott, 2012). Access to recreational facilities, parks, and fitness centers, as well as proximity to amenities like grocery stores and schools, can encourage residents to engage in active transportation. Safety is another critical factor in mental well-being. People need to feel secure from vehicle traffic, environmental pollutants, and crime to maintain good mental health (UDMH, 2017). Elements of disrepair, such as broken infrastructure, can trigger negative feelings and anxiety, signaling potential danger or past criminal activity (CEBCP, 2017). Therefore, urban design should focus on creating streets with good visibility and walkways that provide clear routes, helping to reduce feelings of being lost or isolated. Designing people-oriented spaces with appropriate buffers from traffic can enhance both safety and mental well-being.

1.5 The Consequences of Unsustainable Design on Climate Change and Public Health in Nigeria

Climate models predict that Africa will experience higher-than-average global temperature increases, ranging from 1.1°C to 2.5°C, with Nigeria being one of the most affected nations due to its rapidly growing population (WMO, 2015). The United Nations (2015) projects that over half of global population growth by 2050 will occur in Africa, with Nigeria, as the most populous country on the continent and the seventh-largest in the world, facing considerable climate-related risks. Nigeria's population, currently over 180 million, makes it highly vulnerable to the impacts of human-induced climate change (WMO, 2015).

In recent years, extreme heatwaves have been prevalent across Nigeria, with temperatures soaring to 43°C in various parts of the country, a direct result of global warming (WBG, 2019; WMO, 2015). According to the WBG (2019), Nigeria's maximum temperatures now range between 31°C and 33°C, and the country has experienced an increase of 73 hot days annually, alongside a decrease of 45 cold days. These temperature fluctuations are most evident during the dry season (September–November). Projections indicate that by the 2060s, Nigeria's mean annual temperature will increase by 1.1°C to 2.5°C, and by the 2090s, by 1.4°C to 4.6°C. Additionally, the number of hot days is expected to rise by 32-60% by 2079 and 37-74% by 2099, with northern Nigeria predicted to bear the brunt of these changes (WBG, 2019). The effects of climate change on public health in Nigeria are becoming increasingly apparent, both through direct exposure and indirect channels.

Extreme weather events, including heatwaves, floods, and droughts, are causing negative impacts on water, food, and air quality, which in turn, affect public health (Elum & Momodu, 2017). Temperature extremes have the most severe impact on the health and well-being of Nigerians, with rising temperatures being linked to diseases such as meningitis. In 2018, 481 cases of meningitis were reported in Nigeria, attributed to the extreme heat, which creates an environment conducive to the virus's spread (Sun, 2018). Furthermore, Mohammed et al. (2017) suggest that climate change may be a key factor in the increasing rates of meningitis in the country.

1.6 Objectives of the Study

The aim of this research is to investigate the psychological impact of architectural beauty on urban well-being, with a focus on understanding how aesthetic experiences within the built environment influence the emotional, social, and environmental dimensions of well-being among urban residents.

Objectives are:

- To investigate how individuals perceive and evaluate architectural beauty within urban environments.
- To identify and elucidate the psychological mechanisms that mediate the relationship between architectural aesthetics and urban well-being.
- To assess the impact of architectural beauty on psychological well-being within urban populations.
- To provide perceptions and recommendations for integrating aesthetic considerations into urban planning and design practices.

2. RESEARCH METHOD

2.1 Study Area

Katsina State is situated in the North-West geopolitical zone of Nigeria, along with Jigawa, Kaduna, Kano, Kebbi, Sokoto, and Zamfara States. It lies approximately 487.9 km north of Abuja, Nigeria's capital, and covers an area of 24,192 km². The state is divided into 34 local government areas and is predominantly inhabited by the Hausa and Fulani ethnic groups. According to the contested 2006 national population and housing census, Katsina State had a population of 5,801,584, with 2,948,279 males and 2,853,305 females. Established in 1987, Katsina State was created from the former Kaduna State. The state's 34 local government areas are grouped into three senatorial districts: Katsina North, Katsina South, and Katsina Central.

2.2 Data collection

The target respondents include metropolitan residents who have lived in city environments for varying durations both short and long periods. Data was gathered from diverse demographic groups to ensure the findings represent a broad cross-section of the population.

2.3 Statistical Analysis

The research uses descriptive statistics to analyze the overall responses for each question. It gives the insights on how residents generally perceive architectural beauty and its impact on well-being. We also conduct correlation analysis to examine the relationship between architectural beauty and psychological well-being (e.g., mood, stress levels, happiness). To also explore how demographic variables (e.g., age, years living in urban areas) correlate with perceptions of architectural beauty and its impact on well-being.

3. RESULT AND DISCUSSION

This section presents the figures as well as tabular results and discussion of an analysis on the psychological impact of architectural beauty on urban well-being: a study of Katsina residents' perceptions.

3.1. Descriptive Statistics

The study sample includes 200 valid responses across five demographic variables: age, gender, educational level, occupation, and years spent in an urban area. The data presented below provides insights into the distribution and central tendencies of these variables within the sample.

Table 1: Descriptive Statistics for demographic variables						
		Age	Gender	Educational Level	Occupation	Years in Urban Area
N	Valid	200	200	200	200	200
	Missing	0	0	0	0	0
Mean		1.8000	1.1400	2.9000	1.1300	3.4000
Std. Deviation		.40100	.34786	.43698	.50435	1.02236

Table 2: Demographic profile of the respondents

Gender of the respondent	Frequency	Percentage
Male	172	86.0%
Female	28	14.0%
Total	200	100%
Age of the respondents		
Under 18	40	20.0%
18-30	160	80.0%
Total	200	100%
Education level of the respondent		
SSCE	10	5.0%
Tertiary	190	95%
Total	200	100%

Occupation		
Students	187	93.5%
Professional	1	0.5
Self-employed	11	5.5
Retired	1	0.5
Total	200	100%
Years in urban area		
Less than 1 year	20	10.0%
1-5 years	20	10.0%
6-10 years	20	10.0%
More than 10 years	140	70.0%
Total	200	100%

Gender distribution within the sample shows a marked predominance of males, comprising 86% of participants, with females representing a smaller proportion of 14%. This gender imbalance might impact the overall findings, as men and women may experience and interpret architectural beauty differently, with previous studies suggesting that gender can influence preferences for specific architectural styles and urban designs. The high percentage of male respondents could mean the study results lean toward male perspectives on architectural aesthetics and its effects on urban well-being, potentially affecting the generalizability of the findings. However, understanding these perspectives is still valuable, especially considering that gendered experiences of space may influence how individuals perceive architectural beauty and urban living.

The analysis of age demographics in the sample highlights a predominantly young population, with the mean age value calculated as 1.80 on a categorical scale. This average aligns with the significant distribution observed in the age groups, where a substantial 80% of participants are within the 18–30 range. This younger age group may have different perspectives on urban aesthetics and well-being than older populations, as they are often more attuned to contemporary architectural designs and trends. Furthermore, younger individuals tend to be highly mobile and may therefore bring insights based on experiences in diverse urban settings, potentially influencing how they perceive architectural beauty in their current urban environment. In contrast, the minority 20% of participants under 18 may have a distinct viewpoint on urban aesthetics, shaped by their limited years in urban areas but potentially strong impressions of architecture due to its novelty.

Educational level data reveal that most participants hold a tertiary-level education, accounting for 95% of the sample, with only 5% having secondary school -level education. This high educational attainment suggests that respondents may possess a deeper awareness and appreciation of architectural aesthetics, possibly having been exposed to design concepts and urban theories in their academic journeys. With a predominantly well-educated group, the participants likely bring an informed and critical perspective to the evaluation of urban architectural beauty. Those with higher education may also have a heightened interest in how architecture affects urban well-being, perceiving it as an integral part of their quality of life in the city. Conversely, the small portion of participants with secondary education may provide valuable contrast by offering views less influenced by formal architectural or design education, thus enriching the study's findings by introducing a broader range of perspectives.

The occupation data indicate a significant skew towards students, who make up 93.5% of the sample, suggesting that the perspectives gathered in this study primarily reflect those of a younger, academically engaged demographic. This high concentration of students likely influences the attitudes toward architectural beauty, as younger individuals in academic environments may be more open to or critical of contemporary urban designs, potentially due to exposure to new ideas and trends in urban studies, architecture, or related fields. The student demographic may have unique expectations for urban environments, emphasizing innovative, sustainable, or visually engaging spaces that align with current academic discussions on urban well-being and aesthetics. This academic focus might also contribute to a more reflective or critical perspective on the psychological impact of architectural beauty, as students could be more attuned to how these elements affect their personal and collective experiences in urban settings. Consequently, while this concentration may provide valuable insights into how architectural aesthetics influence well-being within an educated, youth-oriented segment, it also means that perspectives from other occupational groups are less represented, which could limit the generalizability of the findings across a broader, more diverse urban population.

The data on years spent in urban areas reveal that a majority of participants (70%) have lived in urban environments for over ten years, indicating a deep familiarity with the architectural landscape and the dynamics of urban living. This extensive urban residency likely contributes to more nuanced and informed responses regarding the aesthetic impact of architecture, as long-term residents are more accustomed to observing the evolution of their surroundings and may have developed specific expectations or preferences for urban aesthetics. Their prolonged exposure to various architectural styles, urban planning efforts, and environmental changes may also influence their sensitivity to the psychological effects of these spaces, enabling them to assess architectural beauty with a more seasoned perspective that newer residents may not share. This experienced viewpoint, therefore, provides valuable insights into how sustained exposure to urban architecture can shape perceptions of aesthetic and psychological well-being in city life.

Table 3: Correlations Analysis within the residents' perceptions of building aesthetic

		Building Aesthetic Appeal	Mood Impact of Architecture	Years in Urban Area
The buildings in my urban environment are aesthetically pleasing.	Pearson Correlation	1	-.231**	-.180*
	Sig. (2-tailed)		.001	.011
	N	200	200	200
Architectural beauty in my environment positively affects my mood and mental health.	Pearson Correlation	-.231**	1	.369**
	Sig. (2-tailed)	.001		.000
	N	200	200	200
Years in Urban Area	Pearson Correlation	-.180*	.369**	1
	Sig. (2-tailed)	.011	.000	
	N	200	200	200
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

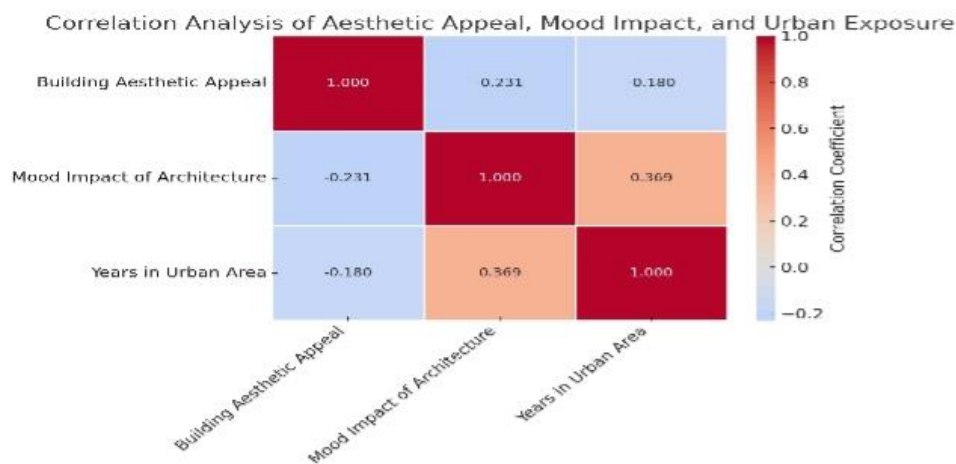


Figure 1 Correlation analysis of Aesthetic Appeal, Mood impact and Urban Exposure

The correlation analysis reveals a statistically significant relationship between residents' perceptions of building aesthetic appeal and its impact on their mood and mental health, highlighting the psychological influence of urban architecture on well-being. Specifically, the data show a negative correlation ($r = -0.231$, $p = 0.001$) between the aesthetic appeal of buildings and mood impact, suggesting that as aesthetic appeal increases, mood impact may actually decrease, or residents might perceive the aesthetic beauty differently depending on their mental health status. This could indicate that while individuals appreciate aesthetic beauty, constant exposure or the novelty factor may wear off, causing a subtle decrease in mood impact. Alternatively, those with a more neutral or less appreciative view of architecture may report a different psychological response. This negative correlation invites further exploration into how the perception of

aesthetics is internalized differently among individuals, highlighting the complex, sometimes paradoxical, influence that urban design can exert on psychological well-being.

Additionally, the correlation between architectural beauty's impact on mood and the number of years residents have lived in urban areas ($r = 0.369$, $p = 0.000$) reveals that those who have spent more time in the city are more likely to report a positive psychological impact from aesthetically pleasing architecture. This significant positive correlation suggests that long-term urban residents may have a stronger connection with their environment, leading to greater appreciation and positive mental responses to well-designed buildings. Furthermore, the weak but significant negative correlation ($r = -0.180$, $p = 0.011$) between the aesthetic appeal of buildings and years in an urban area may imply that while familiarity with urban environments enhances positive mood responses to architectural beauty, it could also lead to a degree of desensitization regarding the sheer aesthetic aspect of buildings. This finding underscores the nuanced role of exposure duration in shaping the relationship between architectural aesthetics and psychological well-being, suggesting that both novelty and familiarity with urban beauty can uniquely affect individuals' mental health and satisfaction with their surroundings.

3.2 Discussion of the Findings

The findings from this study underscore the complex and multifaceted relationship between architectural beauty and residents' psychological well-being within urban environments. The descriptive statistics highlight a predominantly young, educated sample with a high proportion of students, reflecting perspectives that may prioritize contemporary and innovative architectural styles. The high educational level among participants suggests a greater awareness and appreciation for urban design principles, which likely shapes their perceptions of how architecture affects their mental and emotional well-being. The fact that most respondents have spent over a decade in urban areas suggests a deep familiarity with the urban landscape, enabling them to offer insights informed by prolonged exposure to city living. This demographic composition provides a valuable context for interpreting how architectural aesthetics influence residents, as younger, educated, and long-term urban dwellers may perceive aesthetic and psychological impacts differently from a more diverse population.

The correlation analysis further illustrates the nuanced ways in which building aesthetics influence mood and mental health. The significant negative correlation between building aesthetic appeal and mood impact suggests that while residents acknowledge architectural beauty, its effect on mood may diminish with prolonged exposure or as novelty fades. This finding indicates that initial impressions of urban aesthetics may be more intense, potentially creating a strong mood-boosting effect that could diminish over time. The positive correlation between years in an urban area and mood impact emphasizes that long-term residents often develop a stronger connection to their environment, which enhances the psychological benefits derived from urban beauty. Long-term exposure appears to increase appreciation for well-designed architecture, perhaps due to familiarity, attachment to the city, or recognition of architecture as an integral part of their daily lives. These insights suggest that while aesthetics are initially impactful, it is the deep-seated connection to one's urban environment that sustains psychological well-being.

The study's findings also have important implications for urban planners and designers, emphasizing the need for a balance between aesthetic appeal and functional longevity in urban spaces. The significance of architectural beauty in enhancing well-being implies that urban environments should prioritize aesthetics in ways that foster long-term engagement and satisfaction among residents. By integrating sustainable, visually engaging, and functionally pleasing architectural designs, urban planners can create spaces that contribute positively to mental health over time. Moreover, the data highlight that different demographic groups—particularly long-term residents versus newer inhabitants may experience and interpret urban aesthetics uniquely, underlining the importance of adaptable design approaches that cater to a diverse urban population. Urban areas that prioritize these factors not only improve residents' quality of life but also foster a greater sense of belonging and satisfaction, reinforcing the city as a supportive and aesthetically appealing environment that promotes psychological well-being.

4. CONCLUSION

The study on "The Psychological Impact of Architectural Beauty on Urban Well-Being: A Study of Katsina Metropolis Residents' Perceptions" reveals several critical findings regarding how architectural aesthetics influence residents' mental and emotional health. The research indicates that well-designed and aesthetically pleasing architectural elements significantly enhance residents' psychological well-being. Features such as natural lighting, spacious layouts, and aesthetically appealing designs contribute to a sense of happiness and mental relaxation. The study underscores that architectural beauty can positively impact mood and reduce stress levels among urban residents. The study also confirms that environmental factors, such as indoor air quality and natural ventilation, play a crucial role in the psychological impact of architectural design. Residents who experience better air quality and more natural light report higher levels of well-being and satisfaction with their living spaces. More over The findings highlight the importance of considering

cultural and social preferences in architectural design. The study shows that designs that align with local cultural values and social practices are more likely to positively affect residents' perceptions and overall well-being.

The study also reveals that architectural aesthetics significantly impact the mental and emotional well-being of urban residents. Elements such as natural lighting, spacious layouts, and aesthetically appealing designs positively influence mood, reduce stress, and foster overall psychological well-being among Katsina residents. Environmental quality factors, including indoor air quality and ventilation, also play a critical role, enhancing residents' satisfaction with their living spaces. Additionally, culturally resonant designs align better with local preferences, further enhancing positive perceptions and urban well-being. This research underscores the importance of integrating aesthetic, environmental, and cultural considerations into urban design, contributing valuable insights for creating supportive and health-promoting urban environments that enhance residents' quality of life.

5. RECOMMENDATION

The study emphasizes the need for urban planners and architects to integrate psychological and emotional considerations into their designs. By prioritizing aesthetics and environmental quality, In summary, this research recommend the following for the well-being of Katsina resident

- ❖ Urban planners and architects should integrate aesthetic considerations, such as natural lighting, high ceilings, and pleasing design elements, into their projects. Ensuring good indoor air quality and proper ventilation should be a priority to enhance residents' psychological well-being.
- ❖ Design solutions should reflect the cultural values and social practices of the Katsina community. Engaging with local residents to understand their preferences and incorporating these insights into architectural designs can lead to more satisfying and health-promoting environments.
- ❖ Measures should be taken to improve indoor air quality through the use of non-toxic materials, effective ventilation systems, and regular maintenance. This will help mitigate the negative effects of pollutants on residents' health and well-being.
- ❖ Educate residents and stakeholders about the psychological benefits of architectural beauty and environmental quality. Raising awareness can lead to increased demand for aesthetically pleasing and health-conscious designs.
- ❖ Incorporate green spaces and natural elements into urban designs to promote relaxation and mental well-being. Urban parks, gardens, and green roofs can provide residents with opportunities for recreation and stress relief.

6. RESEARCH CONTRIBUTION

By highlighting the positive impact of aesthetically pleasing architectural elements on residents' psychological well-being, the study encourages the adoption of design practices that prioritize beauty and functionality. That can lead to improved quality of life for Katsina city residents through more harmonious and pleasant living environments. The findings provide valuable insights for urban planners, architects and developers. Understanding the psychological benefits of features like natural lighting, spacious layouts and good air quality can guide the creation of healthier and more satisfying urban spaces.

7. REFERENCES

- [1] Abdul Majid, N. H., & Hussaini, I. U. (2015). Energy development in Nigeria and the need for strategic energy efficiency practice scheme for the residential building sector. *Management of Environmental Quality: An International Journal*, 26(1), 21-36. doi:10.1108/MEQ-10-2013-0117
- [2] Adaji, M., Watkins, R., & Adler, G. (2017). Indoor Thermal Comfort for Residential Buildings in the Hot-Humid Climate of Nigeria during the dry season. Paper presented at the Passive Low and Energy Architecture: Design to Thrive, Edinburgh, UK
- [3] Akagwu, M. (2017). Sustainable Driven Architectural Institutional Framework; the Backbone for an Improved Tropical Environment in Nigeria *Environtopica*, 14, 1-15.
- [4] Asekun-Olarinmoye, E. O., Bamidele, J., Odu, O. O., & Ojofeitimi, E. O. (2014). Public perception of climate change and its impact on health and environment in rural southwestern Nigeria. *Research and Reports in Tropical Medicine*, 5, 1-10.
- [5] Calame, J. (2019, November 18). Impacts of architecture and space on mental and physical health [Interview].
- [6] Candill, W. M. (1978). *Architecture and you, how to experience and enjoy buildings* (1st ed.). Whitney Library of Design.
- [7] Centre for Evidence-Based Crime Policy (CEBCP). (2017). Broken windows policing. Retrieved
- [8] from <https://cebcp.org/evidence-based-policing/what-works-in-policing/research-evidence-review/broken-windows-policing>

- [9] Christopher, D. (1990). Places of the soul: Architecture and environmental design as a healing art. Gray Publishing.
- [10] Comaroff, J., & Comaroff, J. L. (1993). Modernity and its malcontents: Ritual and power in postcolonial Africa. Chicago: University of Chicago Press
- [11] Dalibi, S., Feng, J., Shuangqin, L., Sadiq, A., Bello, B., & Danja, I. (2017). Hindrances to Green
- [12] Building Developments in Nigeria's Built Environment: "The Project Professionals' Perspectives". IOP Conf. Series: Earth and Environmental Science, 63(012033)
- [13] Edomah, N. (2016). On the path to sustainability: Key issues on Nigeria's sustainable energy development. Energy Reports, 2, 28- 34. doi:<https://doi.org/10.1016/j.egyr.2016.01.004>
- [14] Elum, Z. A., and Momodu, A. S. (2017). Climate change mitigation and renewable energy for
- [15] sustainable development in Nigeria: A discourse approach. Renewable and Sustainable Energy Reviews, 76, 72-80. doi:<https://doi.org/10.1016/j.rser.2017.03.040> EnergyPlus. (2016). EnergyPlus
- [16] Forbes. (2015, March 23, 2015). The Little-Known \$15 Billion Empire Of Africa's Richest Man. Forbes
- [17] Francis, J., Wood, L.J., Knuiman, M., & GilesCorti, B. (2012). Quality or quantity? Exploring the
- [18] relationship between public open space attributes and mental health in Perth, Western Australia. Social Science & Medicine, 74(10), 1570-1577. <https://doi.org/10.1016/j.socscimed.2012.01.032>
- [19] GA, & UN. (2015). Transforming our world: the 2030 Agenda for Sustainable Development. Division for Sustainable Development Goals: New York, NY, USA.
- [20] Gross, R. D. (2015). Psychology: The science of mind and Behavior. Oxford University Press.
- [21] Heathcott, J. (2012). Planning Note: Pruitt-Igoe and the Critique of Public Housing. Journal of the
- [22] American Planning Association, 78(4), 450-451. <https://doi.org/10.1080/01944363.2012.737972>
- [23] Lang, J. (1987). Creating architectural theory: The role of behavioral sciences in environmental design. Van Nostrand Reinhold Company.
- [24] Mohammed, I., Iliyasu, G., & Habib, A. G. (2017). Emergence and control of epidemic
- [25] meningococcal meningitis in sub-Saharan Africa. Pathogens and Global Health, 111(1), 1-6. doi:10.1080/20477724.2016.1274068
- [26] Nii Addy, M., Adinyira, E., & Koranteng, C. (2014). Architect's perception on the challenges of
- [27] building energy efficiency in Ghana. Structural Survey, 32(5), 365-376. doi:10.1108/SS-03-2014-0014
- [28] Okafor, M. U. (2018). Integrating indoor thermal comfort opportunities from traditional building
- [29] types into the delivery and management of sustainable built environments. Journal of Construction Project Management and Innovation, 8(1), 1682-1695.
- [30] Oyefusi, N., & Adeyemo, O. (2019). Critical Review of Factors Inhibiting the Adoption of Gree Building Design in Nigeria
- [31] Peen, J., Schoevers, A.T., Dekker, J. (2010). The current status of urban-rural differences in psychiatric disorders. Acta Psychiatrica Scandinavica, 121(2), 84-93. <https://doi.org/10.1111/j.1600-0447.2009.01438.x>
- [32] The Centre for Urban Design and Mental Health (UDMH). (2017). How Urban Design Can Impact Mental Health. Retrieved from <https://www.urbandesignmentalhealth.com/how-urban-design-can-impactmental-health.html>
- [33] Time. (2017, September 22, 2017). How Architecture Should Adapt to Climate Change. Time Magazine
- [34] UN. (2015). World Population Prospects: The 2015 Revision. from United Nations Department of Public Information
- [35] United Nations World Urbanization Prospects. (2018). Population Division. Retrieved from <https://population.un.org/wup/Download/>
- [36] WBG. (2019). Climate change knowledge portal. Retrieved from <https://climateknowledgeportal.worldbank.org/country/nigeria/climate-data-historical>
- [37] WCED. (1987). Our Common Future 'Brudtland Report'. New York, USA: United Nation.
- [38] WHO. (2015). Climate And Health Country Profile – 2015 Nigeria. Geneva, Switzerland: World
- [39] Health Organization Retrieved from <https://www.who.int/globalchange/resources/PHE-country-profile-Nigeria.pdf?ua=1>
- [40] WMO. (2015). The climate in Africa: 2015. Geneva, Switzerland: World Meteorological Organization
- [41] Wojuola, R. N., & Alant, B. P. (2017). Public perceptions about renewable energy technologies in Nigeria. African Journal of Science, Technology, Innovation and Development, 9(4), 399-409. doi:10.1080/20421338.2017.1340248
- [42] Zhang, Y., Kang, J., & Jin, H. (2018). A review of green building development in China from the perspective of energy saving. Energies, 11(2), 334