VOL. 09 NO. 4,
AUGUST, 2025
E-ISSN 3026-9210
P-ISSN 3026-815X

African Scholar Publications & Research International
www.africanscholarpub.com

Journal of Built Env. & Geological Research (JBEGR)

Human Behaviour and Environmental Conditions in the Core Area of Ibadan, Nigeria: Implications for Urban Well-Being

Adegunloye Oladunni, Olukemi; & Afowowe Victor, Eniola
Department of Architecture, Federal University of Technology, Akure, Nigeria
Corresponding Author: dunniaderibigbearc@gmail.com
DOI: https://doi.org/10.70382/ajbegr.v9i4.030

Abstract

This study investigates the interaction between human behaviour and the built environment in the core area of Ibadan, Nigeria, focusing on how environmental conditions influence residents' perception, behaviour, and psychological well-being. The aim of the research is to evaluate the relationship between human behavioural patterns and the prevailing environmental conditions, with a view to identifying the extent to which the built environment influences sustainable living. A mixed method approach was adopted to source data and utilizing a survey of 360 residents. Direct field observations also provided measurable insights about the level of satisfactions and perceptions of the people living in the core area of Ibadan. Findings revealed that respondents exhibited 74.4% level of attachment to their environment and showed an average satisfaction level of 56.4% with the aesthetic appearance. Overcrowding, noise pollution, Poor Sanitation, Inadequate infrastructure, including roads, drainage, and waste disposal were prevalent and has affected how the inhabitants perceive their environment. Additional factors included the lack of effective building regulations and inadequate coordinated development plan. The study recommends structured urban development programs, Infrastructural investment projects by the government and adequate sensitization to improve the living conditions and encourage a better human environment relationship.

Keywords: Human Behaviour, Psychological Well-being, Environmental Perception, Mental Health, Urban Planning, Community Involvement, Noise Pollution, Environmental Psychology, Sustainable Living, Nigerian Cities

Introduction

The relationship between human behaviour and the physical environment is vital for understanding urban life quality, particularly in densely populated regions where physical settings directly impact human daily experience. The physical environment and human behaviour are seen to have a very strong correlation and influence on each other. Human behaviour in this context represents the spatial use, social interactions, and coping mechanisms to adapt to physical constraints such as overcrowding, noise pollution, and inadequate public services. Urban well-being explains the potential of residents of a particular city to be in a safe and healthy state, which is birthed from the relation between their daily activities and the environmental conditions (Biloria, 2019). Environmental designs contribute significantly to community involvement, social participation and well-being. The rate of place attachment, that is relationship between human and the surroundings in the inner-city Ibadan is a as a result of satisfaction with housing units features and support services, security and tenure status of the residents (Adewale, 2020). The urban environment does not just talk about where human carry out their activities but also serves as a container that sharpens the behavioural outcome, perceptions, and social interactions of its inhabitants. One of the critical issues in peri-urban Ibadan is the lack of awareness on how to enhance their well-being, which makes the need of community education and proper enlightenment a necessity in order to better prepare and protect residents from adverse outcomes linked to environmental and infrastructural changes (Adewoyin, 2024). Researchers claim that the surrounding environment shapes human psychology and behaviour to a great extent.

Ibadan is one of the oldest and largest cities in Oyo State, Nigeria (fig. 1), filled with a rich historical and cultural heritage. The development of Ibadan has been significantly influenced by both traditional and colonial concepts of urbanization. Due to the large number of immigrants who moved into the city in search of security from inter-tribal wars, Ibadan is now one of the largest cities in tropical Africa. Due to this, Ibadan has witnessed rapid urban expansion and spatial transformation, leading to the emergence of peri-urban settlements, characterized by a mix of rural and urban livelihoods (Akanle, 2024). The city can be classified into seven morphological regions, varying in housing, population densities, types and levels of infrastructural facilities, and environmental and sanitary characteristics. These are the core areas: the older suburb, the newer eastern suburb, the newer western suburb, the post-1952 suburb, the government-reserved areas (GRAs), and the government-planned residential estates (at Bodija, Oluyole, and Akobo) (Onibokun, 1999). The core area of Ibadan is characterised by narrow streets, high residential density, poor environmental conditions, physical planlessness, low standard of living and ageing infrastructure as seen in (plates 1 to 5), and this notably impacts the psychological well-being and social organization of residents. The study by Olatunji and Yoade (2018) affirmed that facilities such as water supply, drainage, electricity supply, and water disposal are insufficient in a higher percentage of Ibadan's land area.

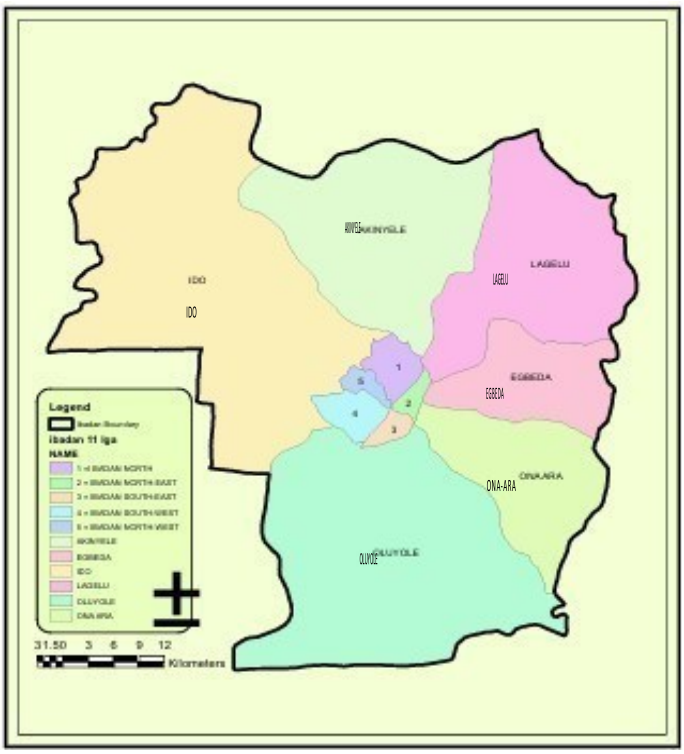


Fig 1: Map of Ibadan Land

This research undertaken is meant to highlight how the residents in the core area of Ibadan tend to relate with their environment and how the environmental conditions shape behavioural responses which in turn contributes to environmental quality. Generally, the built surrounding in several part of Ibadan city is associated with series of problems including pollution (noise, waste), improper layout, inadequate amenities, poor housing conditions, over-congestion and so on.

LITERATURE REVIEW

The study of Adewale (2019), which investigated residential satisfaction amongst residents in the traditional core area of Ibadan, asserts that traditional core areas of urban centres are mostly known for poor housing quality and deteriorating neighbourhood environments. Furthermore, it concluded that governments need to engage in innovative strategies that will improve the quality of the physical environment and social relationships in the communities. In terms of housing quality, the study of Adetayo (2024), which evaluated housing quality and analysed the relationship between housing and neighbourhood characteristics of the Ibadan area, revealed that there was a significant relationship between resident, housing and neighbourhood characteristics, whereas the total housing quality in the suburbs of Ibadan is awful. The physical environment significantly influences human psychology by affecting social interaction, perceived safety, and overall mental health.

Human Mental Health and the Built Environment

Mental health is a state of well-being in which an individual effectively copes with the normal stresses of life, works productively, and contributes to the community. The study of Alabi (2021) affirmed that there is a link between mental health and housing in a particular settlement. A good dwelling, no doubt, enhances the entire well-being and aspiration of the occupants (Steve, 2020). It has been demonstrated that architecture can impact human health, happiness, and psychological function and be leveraged to produce specific physical and behavioural outcomes (Philippe St-Jean, 2022). Natural environments have been consistently shown to have a positive impact on mental health. The quality of housing is a risk factor for mental health problems. Poor quality housing can be a source of stress for individuals and predisposes individuals to mental disorders by lowering their baseline mental health. The type and quality of housing units in informal settlements affected the mental health of residents and the most occurring mental health problems were anxiety, depression, stress, sleeping problems and panic disorders. Provision of green spaces, urban regeneration and enlightenment on sanitary housing environment is thereby suggested in order to maintain a balanced mental health (Alabi, 2021)

The study of Adelekan (2020) posits that residents living in areas with high levels of noise pollution reported higher levels of stress and anxiety and this may affect their behaviour. The overall quality of the environment can have a positive impact on the people, Ogunsemi (2017) noted that residents living in areas with high levels of green spaces reported higher levels of satisfaction with their living environment and standard of living. The interaction of individuals with the spatial environment depends on the extent of the individual's perception of the vacuum and the way he or she absorbs the environment around him or her. The individual perceives the environment around him or her through the Geographical, interactive, aware and behavioural environment (Mersal 2018).

Human Psychology and the Built Environment

Human psychology explains the scientific study of mind and behaviour, and it studies the way in which an environment around the individuals influences their emotional and social actions. The environment has a great ability to come up with feedback on human activities directly. Hence since the environment shapes psychology, human psychology is highly dependent upon the surrounding environment of an individual, be it social, cultural, economic, or educational (Roy, 2022). Psychological responses often draw on people's perceptions and interactions with their environment. The interaction between the physical environment and Psychology has been of interest to epidemiologists. The study of Mersal (2018) stated that the constructed environments we inhabit have lingering emotional consequences; likewise, the positive emotional responses and the necessary social interaction are influenced by the space that contains the human experience. The Prospect-Refuge Theory, which was developed in 1975, is a significant theory in environmental psychology in describing how human beings interact with their environment. It explains how some physical aspects of the environment affect the psychological sensations and behaviour of individuals according to the underlying human

tastes shaped through evolutionary processes (Appleton, 1975). The application of Prospect-Refuge Theory to the landscape of the core area of Ibadan requires the examination of the rate at which the built environment of the area reflects those innate human preferences. Apart from the surrounding natural environment, the immediate built environment in which humans live is greatly responsible for human psychology-led behaviours (Roy, 2022).

METHODOLOGY

The research was carried out using a survey design method. Numerical, descriptive and explanatory data was obtained. Primary data were sourced through the use of a questionnaire being administered to residents who are based in the core area of Ibadan. A systematic sampling technique was used to select a total of 360 respondents in the vicinity. The sampling frame comprises an average of 10 localities which were randomly selected for the survey exercise, including Iwo Road, Bere, Oje, Orita-Aperin, Oke-Bola, Idi-Ape, Oke-Sapati, Oke-Offa, Oke-Aremo, and Oke-Badan. These settlements were purposively selected because they are all centred in the inner region of Ibadan. Data collection was during the day when residents were very active. The questionnaire was divided into 6 sections, which include Demographic Information, Human-Environment Relationship, Psychological Characteristics, Perception of the environment, Physical Development Pattern, and Sustainable Framework/Improvement Suggestions. Variables like socio-demographic information, mental health, level of stress, privacy, Safety, Security, Lighting, Availability of adequate public amenities, Level of sanitation/waste management and social interaction were used to measure the perception of the residents and their relationship with the built environment. In assessing the reliability of the questionnaire, the coefficient of Cronbach's alpha was applied, which ranged from 0.67 to 0.90, indicating acceptability of the measurements. Both descriptive and inferential techniques were used to analyse the data obtained from the field survey, with the aid of Statistical Package (20) for the Social Science (SPSS) software. Descriptive statistics summarised perceptions and psychological effects, while inferential analysis assessed relationships between environmental variables and behavioural characteristics. Hypothesis testing determined significance levels for associations between two variables.

Ethical considerations were implemented for the integrity of the research. Prior to participation, all respondents were fully informed about the study's objectives and procedures. Adequate consents were obtained from each participant, and their confidentiality was preserved throughout the research process.



Plate 1: Daily engagement in the environment



Plate 2: Traffic Congestion



Plate 3: Bad Waste disposal/Drainage channel



Plate 4: Road Condition



Plate 5: Deteriorating Infrastructure

RESULTS AND ANALYSIS

Socio Economic Characteristics of Respondents

Table 1 presents the analysis of socio-economic characteristics of respondents. It focuses on gender, age, marital status, education level, and employment status, income of the respondents and estimation of people living in each household.

Table 1: Socio-economic characteristics of respondents

VARIABLES	CATEGORIES	FREQUENCY	PERCENTAGE (%)
Age	Under 18yrs	34	9.4
	18-24yrs	100	27.8
	25-34yrs	106	29.4
	35-44yrs	47	13.1
	45-54yrs	46	12.8
	54yrs and above	27	7.5
	Total	360	100
Gender	Male	202	56.1
	Female Total	158	43.9
		360	100
Marital Status	Single	179	49.7
	Married	150	41.7
	Divorced	31	8.6
	Total	360	100
Education Level	No formal Education	29	8.1
	Primary	33	9.2
	Secondary	107	29.7
	Tertiary	145	40.3
	Postgraduate Education	46	12.8
	Total	360	100
Employment Status	Employed	185	51.4
	Unemployed	46	12.8
	Student	87	24.2
	Retired Others	14	3.9
	Total	28	7.8
		360	100
Monthly Income	Less than #20,000	84	23.3
	#20,000- #50,000	130	36.1
	#50,000- #100,000	105	29.2
	#100,000 and above	41	11.4
	Total	360	100
Household size	1-2	64	17.8
	3-4	169	46.9
	5-6	109	30.3
	7 and above	18	5.0
	Total	360	100

The result revealed that the majority of the respondents' age range is between 24 and 35 years, with a percentage of 29.4%. This age range falls under the young adult category, meaning that they are expected to influence the surroundings positively and psychologically in one way or another.

40.3% had higher education experience compared to all other levels of education. The respondents who partake majorly in the environmental activities are educated. 47.9% of the respondents are single,

41.7% are married, and 8.6% are divorced. About 7.5% of the age group, which falls in the category of 54 years and above, will not be so deeply involved in physical activities. The analysis also showed that the majority of the respondents are male, with the highest percentage of 56.1%, while 43.9% of the respondents are female. About 51.4% are employed, 12.8% are unemployed, 24.2% are students and an approximate total of 11.7% are retired or into other means of earning income. The survey revealed that 36.1% earn between

#20,000- #50,000 monthly; 29.2% earn between #50,000 and #100,000; 23.3% earn below #20,000 while 11.4% earn #100,000 and above. Surveys on the household size of respondents show that 46.9% have between 3 and 4 persons, 30.3% have 5-6 persons, 17.8% have 1-2persons, and 5.0% have 7 or more. This data goes a long way to reflect that Ibadan is a high-density area, as the household size is a reflection of the population of the study area.

Analysis on Human-Environment Relationship

The human-environment relationship variables were in several divisions, which include the rate of community involvement, engagement with neighbours or community members, engagement in outdoor activities, emotional attachment to the environment and so on. The result displayed in table 2 below shows that the majority of the people had a good level of community involvement, with a high mean score of 3.267 and the highest standard deviation of 0.971 being rated “occasionally” by the frequency and percentage distribution of 200 (58.3%). Engagement with neighbours or community members has a mean score of 3.092 and a standard deviation of 1.134 being rated “occasionally” by 189 (52.5%); Satisfaction with the living environment (2.925 ms; ±1.080 std) being rated “neutral” by the frequency and percentage distribution of 146 (40.6%); Engagement in outdoor activities (2.267 MS; 0.909 std) being rated “occasionally” by 149 (41.4%); Influence of surroundings on daily behaviour (1.861 MS; 0.726 std) being rated “agreed” by 194 (53.9%); and Emotional Attachment to the environment (1.256 MS; 0.437 std) being rated “yes” by 268 (74.4%). This implies that most of the respondents had a strong relation with the environment in terms of the rate of their involvement, engagement with activities and emotional attachment. The relationship will enhance the psychological outcome of how they perceive their environment. This finding is also emphasised in Roy's (2022) study, which affirms that the immediate built environment in which humans live is greatly responsible for human psychology-led behaviour.

Table 2: Statistics on human-environment relationship

	Var. 1	Var. 2	Var. 3	Var. 4	Var. 5	Mean score	Std. Dev.	Rank
	VF (%)	F (%)	O (%)	N (%)				
Rate of community Involvement	40 (11.1)	90 (25.0)	200 (58.3)	20 (5.6)	-	3.267	0.971	1
Engagement with neighbours	39 (10.8)	102(28.3)	189 (52.5)	30 (8.3)	-	3.092	1.134	2
Engagement in outdoor activities	98(27.2)	93(25.8)	149 (41.4)	20 (5.6)	-	2.267	0.909	4
Influence of surroundings on daily behaviour	113(31.4)	194(53.9)	43 (11.9)	10 (2.8)	-	1.861	0.726	5
	VDS (%)	DS (%)	NL (%)	S (%)	VS (%)			
Satisfaction with the living environment	60 (16.7)	35 (9.7)	146 (40.6)	110 (30.6)	9 (2.5)	2.925	1.080	3
	Yes (%)	No (%)						
Emotional Attachment to the environment	268 (74.4)	92 (25.6)	-	-	-	1.256	0.437	6

Where VF indicates very frequently, F-frequently, O-Occasionally, N-Never, SA-strongly agreed, A- agreed, D- disagreed, SD= strongly disagreed, VDS- very dissatisfied, DS- dissatisfied, NL- neutral; S- satisfied; VS- very satisfied

Analysis on Psychological Characteristics of Residents

Table 3 shows the analysis of the psychological characteristics of residents, comprising the level of stress, feeling of safety, mental well-being, change in mood, privacy and level of insomnia. It shows the frequency distribution, percentage distribution, weighted mean score and standard deviation. The feeling of stress has the highest mean score with the value of 2.386 and standard deviation of 0.885, being rated as "frequently" by the frequency and percentage distribution of 178 (49.4%), and it is ranked first. It is followed by the mental well-being of respondents in the core area of Ibadan (2.278 MS; 0.794 std) rated "satisfied" by 148 respondents (41.1%); Suffering from insomnia or poor sleep due to the environment (1.439 MS; 0.497 std) rated "Yes" by 202 (56.1%); Experience of change in mood (1.297 MS; 0.458%) was rated "Yes" by 253 (70.3%); Feeling of protected privacy (1.256 MS; 0.437 std) rated by "Yes" by 268 (56.1%), while Feeling of safety in the environment (1.128 MS; 0.334 std) rated "Yes " by 314 (87.2%). The result affirms that the built environment has a great psychological impact on humans, in one way or another. The statistics below indicate that nearly half of the residents in Ibadan's core area are frequently under psychological stress,

mainly due to environmental degeneration such as noise, overcrowding, and sanitation issues. The high level of prevalent stress can affect residents' mental health, interaction with the environment and level of productivity, leading to an increased rate of depression and anxiety. Therefore, it is necessary to prioritise the improvement of environmental quality to promote a healthy and more productive community. The study of Gupta 2024 correlates with these findings, which state that the natural environments have been consistently shown to have a positive impact on mental health. Exposure to green spaces, for example, has been linked to reduced symptoms of anxiety and depression, improved sleep quality, and enhanced psychological well-being (Gupta, 2024).

Table 3: Psychological Characteristics of Residents

	Var. 1	**Var. 2**	**Var. 3**	**Var. 4**	**Mean score**	**Std. Dev.**	**Rank**
	VF (%)	F (%)	O (%)	N (%)			
Stress in the environment	47 (13.1)	178 (49.4)	84 (23.3)	51 (14.2)	2.386	0.885	1
	DS (%)	NL (%)	S (%)	VS (%)			
Mental Well-being in the area	14 (3.9)	135 (37.5)	148 (41.1)	63 (17.5)	2.278	0.794	2
	Yes (%)	No (%)					
Change in Mood due to the environment	253 (70.3)	107 (29.7)	-	-	1.297	0.458	4
Poor sleep due to the environment	202 (56.1)	158 (43.9)	-	-	1.439	0.497	3
Privacy in the environment	268 (74.4)	92 (25.6)	-	-	1.256	0.437	5
Safety in the environment	314 (87.2)	46 (12.8)	-		1.128	0.334	6

Where VF indicates very frequently, F-frequently, O-Occasionally, N-Never,
VDS- very dissatisfied, DS- dissatisfied, NL- neutral; S- satisfied; VS- very satisfied

Analysis on Perception of Inhabitants on their Environment

Table 4 below shows the highest-ranked variable "Traffic congestion in the area". The variable ranked first among other variables since the mean value is given as 2.919 being rated "occasionally" by 230 (70.9%), having a standard deviation of 0.927, followed by "General Aesthetic of the environment" with a mean value of 2.817 being rated "Average" by 203 (56.4%), and std of 0.739; "condition of road" with a mean value of 2.742 and an std of 0.862 being rated "Average" by 213 (59.2%); and
"Environmental Cleanliness" with a mean value of 2.697 and an std of
0.880 being rated "Average" by 166 (46.1%); "Level of noise in the area" with a mean value of 2.114 and std of 0.736 being rated "high " by 188 (52.2%); "Accessibility to basic services"

with a mean value of 1.908 and std of 0.7558 being rated "good " by 245 (68.1%); "Presence of sufficient green space" with a mean value of 1.525 and std of 0.500 being rated "no" by 189 (52.5%); "Overcrowding of the environment" with a mean value of 1.344 and std of 0.476 being rated "yes" by 236 (65.6%); "Satisfaction with the transportation infrastructure in the area" with a mean value of 1.333 and std of 0.472 being rated "yes" by 240 (66.7%). The findings reflect the composition of the environment in the core area of Ibadan, which is characterised by infrastructural imbalance and environmental challenges. It is necessary for the government to prioritise infrastructural renewal, noise and waste management, provision of green spaces, and efficient traffic and transportation planning. Residents' satisfaction in the access to basic amenities rating 68% and dissatisfaction with the amount of green spaces show their interest in the environmental quality in Ibadan. Urban management should therefore prioritise the expansion of green spaces and recreational areas, which will help improve community attachment and psychological balance.

Table 4: Perception of Inhabitants on their Environment

	Var. 1	**Var. 2**	**Var. 3**	**Var. 4**	**Var. 5**	**Mean score**	**Std. Dev.**	**Rank**
	VP (%)	P (%)	AV (%)	G (%)	VG (%)			
General Aesthetic of the environment	13(3.6)	94(26.1)	203(56.4)	46 (12.8)	4 (1.1)	2.817	0.739	2
Accessibility to basic services	-	41(11.4)	-	245(68.1)	74(20.6)	1.908	0.558	6
Environmental Cleanliness	35(9.7)	101(28.1)	166(46.1)	54(15.0)	4(1.1)	2.697	0.880	4
Condition of roads	38(10.6)	68(18.9)	213(59.2)	31 (8.6)	10(2.8)	2.742	0.862	3
	Yes (%)	**No (%)**						
Overcrowding of the environment	236 (65.6)	124 (34.4)	-	-	-	1.344	0.476	8
Presence of sufficient green space	171(47.5)	189(52.5)	-	-	-	1.525	0.500	7
Satisfaction with the transportation infrastructure	240(66.7)	120(33.3)	-	-	-	1.333	0.472	9
	VF (%)	**F (%)**	**O (%)**	**N (%)**				
Traffic congestion in	18(5.0)	67(18.6)	230(70.9)	20(5.6)	-	2.919	0.927	1
	VH (%)	**H (%)**	**M (%)**	**L (%)**				
Level of noise in the	70 (19.4)	188 (52.2)	93 (25.8)	9 (2.5)	-	2.114	0.736	5

Where VP indicates very poor, P indicates poor, AV indicates average, G indicates good, VG indicates very good. VF indicates very frequently, F-frequently, O-Occasionally, and N-Never VH indicate very high, H indicates high, M indicates medium, L indicates Low

Analysis on Physical Development Pattern

The result displayed in the table shows that the most common type of building in the core area of Ibadan is "Bungalow" with a high mean score of 2.581 and the highest standard deviation

of 1.042, by the frequency and percentage distribution of 111 (30.8%). ” The high variation in the predominant building type shows the historical development pattern of Ibadan and socioeconomic factors such as cost and land availability that increase low-rise, detached housing in the core urban zones. On the issue of Building regulations enforcement in the area, the data reveals a mean score of 2.131 and a standard deviation of 0.752 being rated “No” by 279 (77.5%). This highlights the systematic urban management challenges due to the absence of proper building regulations, which may contribute to uncoordinated development, poor construction quality or functional quality of the environment and negative effects on aesthetics and so on. “Building Density” has a mean score of 2.131 and a standard deviation of 0.631 being rated “Medium” by 214 (59.4%). This indicates that while the area may not be extremely overcrowded, there is a moderate level of building denseness, which is characterised by an older city core where land use has intensified over time as a result of an increase in population and urbanisation. “Availability of Public amenities within walkable distance” has a mean score of 1.428 and a standard deviation of 0.495 being rated “Yes” by 206 (57.2%). The rapid development in recent years was affirmed by 255 respondents (70.8%), who had a mean score of 1.292 and a standard deviation of 0.455, indicating a higher percentage of agreement. The finding suggests that the area is undergoing significant transformation, most likely through informal or background construction activities. If not properly managed and executed, this development could strain existing infrastructure by reducing proper environmental quality and interfering with the spatial arrangement of the area.

Table 5: Statistics on Physical development pattern

	Var. 1	**Var. 2**	**Var. 3**	**Var. 4**	**Mean score**	**Std. Dev.**	**Rank**
	Yes (%)	No (%)					
Building regulations enforced in the area	81(22.5)	279(77.5)	-	-	2.131	0.752	2
Public amenities within walkable distance	206 (57.2)	154(42.8)	-	-	1.428	0.495	4
Rapid development in recent years	255(70.8)	105(29.2)	-	-	1.292	0.455	5
	DET. (%)	BOF (%)	BUNG. (%)	MIXED. (%)			
Most common building type in the area	68(18.9)	98(27.2)	111(30.8)	83(23.1)	2.581	1.042	1
	LOW (%)	MED. (%)	HIGH. (%)				
Building Density	56(15.6)	214(59.4)	90(25.0)	-	2.094	0.631	3

Where DET indicates detached, BOF indicates Block of Flat, BUNG indicates Bungalow, MED indicates medium

TESTING OF HYPOTHESIS

A bivariate analysis was conducted to check the relationship between Age and Emotional attachment, Age and sense of community involvement, Gender and mental well-being in the area, Level of stress and rate of traffic congestion in the area. Correlation analysis is a nonparametric test used to test the strength of the relationship between two variables. N shows the number of cases with non-missing values. The values of the correlation coefficient range from -1 to +1.

The sign of the correlation coefficient indicates the direction of the relationship (positive or negative). A positive correlation coefficient indicates that when one variable rises or falls, the other does the same, while a negative correlation coefficient would indicate that when one variable rises, the other falls. The significance level (p-value) is the probability value; a value less than 0.05 are significant and linearly related. If the significance level is relatively large, then the correlation is not significant and the two variables are not linearly related.

Bivariate Analysis of Age and Emotional Attachment to the Environment

The relationship between the age of respondents and emotional attachment to the environment was analysed using Pearson's correlation coefficient. This result in table 6 below showed that there is a negative correlation between the two variables, suggesting a weak negative linear relationship at correlation coefficient -0.106. The significance p-value (0.044) is less than the typical threshold (0.05), which implies that the correlation is statistically significant and linearly related. The degree of the relationship indicates a weak positive correlation between age and emotional attachment to the environment. This is one of the main determinants of the activeness of humans in the environment and other activities that go on in the vicinity. The analysis has shown evidence to reject the null hypothesis and conclude that there was a weak linear relationship between the two variables in the study.

Differences in age groups are associated with residents' emotional attachments to their environments.

Table 6: Correlations between Age and Emotional Attachment

		Age of Respondent	**Emotionally Attachment**
Age Of Respondent	Pearson Correlation Sig. (2-tailed)	1	-.106* .044
	N	360	360
Emotional Attachment	Pearson Correlation Sig. (2-tailed)	-.106* .044	1
	N	360	360

Bivariate Analysis of Age and Sense of Community Involvement

Table 7 shows the correlations between two variables, age of respondents and community involvement, respectively. The analysis was done using the Pearson correlation coefficient, which is used to measure the strength of two continuous variables. It is shown that there is a very weak positive linear relationship between the two variables. Since the significance level or p-value (0.258) is greater than the typical significance threshold (0.05), it implies that the correlation between age of residents and community involvement is not statistically significant. The Pearson correlation coefficient (r) of 0.060 and insignificant correlation between the two variables have given enough evidence to accept the null hypothesis and conclude that there was a weak positive association between the two variables, suggesting no linear relationship between the variables.

Table 7: Correlations between Age and Sense of Community Involvement

	Age of Respondent	**Community Involvement**
Pearson Correlation **Sig. (2-tailed)** **Age Of Respondent**	1	.060 .258
N	360	360
Pearson Correlation **Sig. (2-tailed)** **Community Involvement**	.060 .258	1
N	360	360

Bivariate Analysis of Gender and Mental Well-Being in the Area

The Pearson correlation coefficient result (r=-0.077) indicates a very weak negative linear relationship between the variable labelled 'gender' and mental well-being in the area. This suggests that the relationship between the variables is negligible, and they do not tend to move together in a predictable pattern. In terms of statistical significance, the p-value (0.145) is greater than 0.05 (typical significance level), which means that the correlation is not statistically significant. Given the weak correlation coefficient, it entails that there is no meaningful linear relationship between the two variables. Therefore, the null hypothesis will be accepted due to the insufficient evidence to suggest a statistically significant linear relationship between the variables. The findings suggest that other factors might be influencing the mental well-being of residents in the core area of Ibadan.

Table 8: Correlations between Gender and Mental well-being in the area

		Gender	Satisfaction with mental well-being
Gender	Pearson Correlation	1	-.077
	Sig. (2-tailed)		.145
	N	360	360
Satisfaction with mental well-being in the area	Pearson Correlation	-.077	1
	Sig. (2-tailed)	.145	
	N	360	360

Bivariate Analysis of Level of Stress and Rate of Traffic Congestion in the Area

For the analysis of ordinal-ordinal variable, Spearman correlation coefficient was used and it gave a result of p (rho) =0.006 and p-value of 0.903. It showed an extremely weak negative monotonic relationship between level of stress and level of traffic congestion in the environment. The significant level (0.903) is greater than 0.05, which means the correlation is not significant. It is therefore concluded that given the extremely weak correlation coefficient and lack of statistical significance, there is no relationship between the two variables. The null hypothesis will be accepted due to insufficient evidence to conclude that the variables are related.

Table 9: Correlations between Level of stress and rate of traffic congestion in the area

		Feeling stress living in environment	Experience of traffic congestion due to layout
Feeling stressed living in this environment	Correlation Coefficient	1	-.006
	Sig. (2-tailed)		.903
	N	360	360
Experience of traffic congestion due to layout	Correlation Coefficient	-.006	1
	Sig. (2-tailed)	.903	
	N	360	360

CONCLUSION

The study has examined the relationship between human behaviour and the built environment in the core area of Ibadan, revealing a particular level of connection birthed from socioeconomic realities, perceptions of inhabitants and physical characteristics of the environment. In terms of socio-economic characteristics and human-environment interaction, the demographic analysis shows a larger percentage of young people (i.e., 18-34 years), with a high percentage of single individuals actively engaged in society activities, and lower income or education levels correlating with poorer living conditions, which shows that respondents' socio-economic status influences their interaction with the environment. Findings revealed that there is an evident influence of environmental factors such as poor sanitation, noise

pollution, and overcrowding, which adds more pressure to residents' psychological health. The weak correlation between traffic congestion and stress indicates that other environmental problems are also impactful. The deteriorated physical environment directly poses a threat to psychological wellbeing, leading to dissatisfaction, low emotional attachment to the environment and potential mental health issues among residents.

The statistics of the human-environment relationship show that most of the respondents had a strong relation with the environment in terms of the rate of their involvement, engagement with activities and emotional attachment. The relationship will enhance the psychological outcome of how they perceive their environment. The statistics on psychological characteristics affirm that the built environment has a great psychological impact on humans in terms of safety, stress, privacy, change in mood and total mental health. The statistics on the perception of respondents on their environment show that humans react generally to the aesthetics of the surroundings, access to basic amenities, level of cleanliness, green spaces, and availability of better transportation infrastructure. The hypothesis tests for the variables also showed the level of relationship between age and emotional attachment, age and sense of community involvement, gender and well-being, and variation between level of stress and rate of traffic congestion.

In summary, the research has shown that the state of the physical environment of the core area of Ibadan directly influences residents' behaviours, social interactions, and overall psychological health. The interaction between the primitive human society and strong forces of nature has developed and established certain human practices and behaviours according to the physical environmental conditions. Human behaviour depends upon numerous factors, and the relation between the whole environments is seen to be complex and interdependent.

Recommendations

The study hereby recommend as follows:

i. Urban Development Programs: The government should implement targeted urban renewal projects focused on improving infrastructure, housing quality, and basic amenities for low-income earners, high income earners, young and old, respectively, regardless of their level of education or qualification.
ii. Socio-Economic Empowerment: This can be achieved by providing vocational Training and employment opportunities to uplift residents' economic status, to further foster better community involvement.
iii. Environmental Sanitation and waste management: Establishment and enforcement of strict sanitation regulations, improvement of waste disposal logistics, and promotion of voluntary community cleanliness campaigns
iv. Noise Control measures and implementing green spaces: Implementation of noise regulations, especially in densely populated areas, along with urban design interventions to reduce noise pollution. Public green spaces must also be developed to enhance aesthetic appeal and provide psychological calmness and social cohesion.

REFERENCES

Adegun, O. B., & Owoyemi, O. D. (2019). Impact of urban green spaces on residents' well-being: A studyofLekkiPhase1 Area,Lagos,Nigeria.IOPConferenceSeries: Earth and Environmental Science, 331(1), 012060. https://doi.org/10.1088/1755-1315/331/1/012060

Adegunloye O.O; Folorunso C.O; Taiwo A.A; Adegbehingbe V.O (2022). Nexus between Public Spaces and City Image: A Case Study of Akure, Nigeria. Covenant Journal of Research in the built environment Vol .10 No 1573-591.

Adelekan I.O (2020). Urban Dynamics, Everyday Hazards and Disaster Risks in Ibadan, Nigeria. Environment and Urbanization 32(1), 49–63. https://doi.org/10.1177/0956247819895890

Adetayo O.D; Olugbamila O.B; and Afolabi Henry (2024). Evaluation of housing quality in selected suburban Areas of Ibadan, Nigeria. International Journal of Humanities, Social Science and Management Vol 4, 440-451

Adewale B.A; Ibem E.O and Amole Bayo (2019). Assessment of residential satisfaction in the core area of Ibadan Metropolis, Nigeria. Journal of Human Behaviour in the Social Environment Vol 29 No 2

Adewoyin, I.B; Falegan, A.V & Yusff, B.S (2024). Vulnerability and Resilience in peri-urban Ibadan: Environmental and Socio-Economic impacts on well-being and livelihoods. International Journal of Innovation Research and Advanced Studies Vol 5 No 2

Akanle, O. (2024). Cultural Diversity for National Development, Presentation/Discussion on Broadcasting Corporation of Oyo State Television, Ibadan.

Alabi M.; Balogun F. and Adeduntan Y.J (2021). Housing and Mental Health in Informal Settlements: A Case of Ibadan North Local Government Area of Oyo State, Nigeria. African journal for the psychological study of social issues, Vol. 24 No. 1

Appleton J. (1975). Prospect-refugetheory.LandscapeResearch.1(1),3–10. https://doi.org/10.1080/01426397508705802

Biloria, N., Reddy, P., Fatimah, Y. A., Mehta, D. (2020). Urban Wellbeing in the contemporary city. In: Biloria, N. (eds) Data-driven Multivalence in the Built Environment. S.M.A.R.T. Environments. Springer, Cham. https://doi.org/10.1007/978-3-030-12180_16

Mersal A. (2018). The Impact of built environment on human behaviours. International Journal of Environmental Science & Sustainable Development Vol 3 No 1

Ogundiran R.O (2019) .Pattern of perceived fear of crime in urban and semi-urban areas of Ibadan, Nigeria.

Olatunji S., Yoade A. and Adeyemi S. (2021). Evaluation of Infrastructure in Ibadan Metropolis, Nigeria. Ghana Journal of Geography, Vol. 13 No. 1

Onibokun, A.G (1999).Ibadan Nigeria, Managing the Monsters: Urban Waste and Governance in Africa International Development Research Centre, Ottawa

Philippe St-Jean; Osborne G.C, Michael J (2022). A review of the effects of architectural stimuli on human psychology and physiology. Building and Environment 219,109-182. https://doi.org/10.1016/j.buildenv.2022.109182

Roy R. (2022). Human behaviour and Environment: A Tangle; Vidyabharati International Interdisciplinary Research Journal 7(4).

Rolfe, S., Garnham L., Godwin, J. et al (2020). Housing as a social determinant of health and well-being: developing an empirically-informed realist theoretical framework. BMC Public Health 20, 1138. https://doi.org/10.1186/s12889-020-09224-0

Twohig-Bennett, C., & Jones, A. (2018). The health benefits of the great outdoors: A systematic review and meta-analysis of green space exposure and health outcomes. Environmental Research, 166, 628–637. https://doi.org/10.1016/j.envres.2018.06.030