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# Factors Influencing Residents' Quality of Life in Metropolitan Ibadan, Nigeria

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**Abstract:**

The study examined factors influencing residents' quality of life in metropolitan Ibadan, Nigeria, to use information to provide policy guidelines for sustainable infrastructural development. Primary data for the study were collected through a questionnaire administered to 1,035 respondents (2% of household heads in all residential buildings in the metropolis), using a systematic sampling technique. Descriptive and inferential statistics were used to analyze the data obtained. Findings established that ten variables are loaded on factor one. These variables are the balance between your work and family (-.952), family structure (-0.938), current annual income (.952), free time or leisure time (.893), access to healthcare services (.671), and economic opportunities (.810). Others are the size and quality of home (-.949), the general physical condition of house (-.909), quality and reliability of services provided by the government (-.956), and the neighborhood as a place to raise children (.817). In actual sense, factor 1 is associated with socio-economic and environmental factors and is so named. Thus, the study concluded that the residents' quality of life in Ibadan metropolis was poor. This study has provided information on residents' quality of life based on residents' perceptions. This information can be used by decision-makers in framing development policies aimed at improving the residents' quality of life.

**Keywords:** quality of life, factors, infrastructure, facilities, environment.

# 影响尼日利亚伊巴丹大都市居民生活质量的因素

**摘要：**

该研究调查了影响尼日利亚伊巴丹大都市居民生活质量的因素，以利用信息为可持续基础设施发展提供政策指导。该研究的主要数据是通过使用系统抽样技术对1,035名受访者（占大都市所有住宅楼的户主的2%）进行的问卷调查收集的。描述性和推论性统计用于分析获得的数据。调查结果表明，十个变量加载在因素

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一上。这些变量是您的工作和家庭之间的平衡(-.952)、家庭结构(-0.938)、当前年收入(.952)、空闲时间或休闲时间(.893)、获得医疗保健服务(.671)、和经济机会(.810)。其他因素包括房屋的大小和质量(-.949)、房屋的一般物理状况(-.909)、政府提供的服务的质量和可靠性(-.956)以及作为抚养孩子场所的社区(.817)。实际上,因素1与社会经济和环境因素相关联,因而得名。因此,研究得出结论,伊巴丹大都市居民的生活质量很差。这项研究根据居民的看法提供了有关居民生活质量的信息。决策者可以使用这些信息来制定旨在改善居民生活质量的发展政策。

**关键词:**生活质量、因素、基础设施、设施、环境。

# 1. Introduction

The World Health Organization (WHO) (2007) defined the quality of life (QoL) as an individual's perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectation, standards and concern. QoL can be described as a broad ranging concept that is affected by a person's physical health, psychological state, level of independence and their relationships to salient features of the environment. It focuses on all facets of life, which includes cultural, social, environmental, physical, health and the local value systems, among others (Liang & Hui, 2016; Wang et al., 2022).

The United Nations Department of Economic and Social Affairs (2021) defined quality of life (QoL) index study report shows that Nigeria is placed 156 of 187 countries. Despite this poor ranking, QoL studies for the cities of Nigeria are noticeably rare. As such, it will be most beneficial to Nigeria and by extension Africa if QoL studies are conducted to make clear the dynamics of QoL and its determinants. QoL as a concept has attracted much research and policy attention in recent time among social scientists and health professionals (Mohammad & Sabo, 2018; Manhas et al., 2021).

Studies on QoL across different nations of the world have established the variation in space (Agbola & Agbola, 1997; Bahadur, 2014; Lai et al., 2021). For instance, while Karsten (2007) found that there is spatial variation in the quality of life of the people in Germany; Senlier et al. (2009) acknowledged the variation in the quality of life of residents in Bosnia and Herzegovina. More so, Ietto, Salvo and Cantasano (2014) observed a spatial variation in the quality of life conditioning with reference to the local environmental management in Bivona country (Calabria, Southern Italy). Although, the above studies examined the variation in Qol of some regions, those that put into consideration the variation in the QoL of a traditional urban centre disaggregated into residential zones are hard to come by. Omole (2010) emphasized in Nigeria housing as a unit of the environment that has profound influence on the health, efficiency, social behavior, and general life satisfaction of the community. The researchers concluded that the cultural, social and economic values of a society are the best physical and historical evidence of the civilization of a country. The

above studies did not consider the facilities that satisfied the respondents more than the others. It is against this background that this study examined infrastructure facilities in Ibadan metropolis, Nigeria.

The rapid urbanization occurring within the cities of the world have multi-dimensional challenges noted within the different residential spheres (Kim et al., 2013; Ali et al., 2020). These challenges manifest in diverse ways. These include mass poverty, gross inequality, high unemployment, crowded housing, proliferation of slums and squatters, and deterioration in the environmental condition. Others are the inadequate supply of water, overcrowding in schools and hospitals, increase in traffic jams, road accidents, crimes, and social tensions. Of particular interest and attention is the growing concern about the residents' quality of life (QoL) (Mihalic & Kuščer, 2021).

Researchers contend that the construct of QoL is multi-dimensional and contains both objective and subjective aspects (Veenhoven & Hagerty, 2006; Wills-Herrera et al., 2009). In order for measures of QoL to have meaning, individual's viewpoint must accurately be represented (Pacione, 2003). Therefore, it has been suggested that one must combine objective and subjective elements to obtain a truly holistic and more complete picture (Woo et al., 2018).

Studies on QoL across different nations of the world have established the variations in space (Prescott-Allen 2001; Bovaird & Löffler, 2003; Janssen, 2007; Karsten, 2007; Senlier et al., 2009; Ietto et al., 2014). For instance, while Karsten (2008) found that there is spatial variation in the quality of life of the people in Germany; Senlier et al. (2009) acknowledged the variation in the quality of life of residents in Bosnia and Herzegovina. More so, Ietto, Salvo and Cantasano (2014) observed a spatial variation in the quality of life conditioning with reference to the local environmental management in Bivona country (Calabria, Southern Italy). Although, the above studies examined the variation in Qol of some regions, those that put into consideration the variation in the QoL of a traditional urban centre disaggregated intoresidential zones are hard to come by. It is against this background that this study examined factors influencing residents' quality of life in Ibadan municipality, Nigeria.

## 2. Historical Background and Growth of Ibadan

Ibadan city is a traditional urban centre founded in the 1820s. It is the largest indigenous urban centre in Africa south of the Sahara (Vogt et al., 2020). It is one of the most urbanized areas in Nigeria. It derived its name from Eba - Odan i.e., "near the grassland environment". It is derived from history that its location was not accidental. This is consequent to the fact that the Forest provided the much-needed protection for refuges that flock into the town. The presence of grassland provides farmland for cultivation purposes, a marketing centre for traders and goods from both the forest and the grassland areas of the western half of Nigeria.

It was extracted from history that this location of Ibadan was settled as a camp by soldiers of the Ife, Ijebu and Oyo after they had successfully destroyed the neighboring kingdom of Owu (Ayeni, 1994). Thus, the settlement of all these various soldiers from Oyo, Ife, Ijebu, Egba at strategic locations like Mapo Hill, Oja Oba, Isale Ijebu as war camps evolved and combined to be this Ibadan city (Figure 1).

The growth of Ibadan city started in 1893, when the British threatened a trend of peace. This incidence marked the beginning of the emergence of the city as a major commercial and administrative centre. The construction of railways in 1901 enhanced commercial activities, which attracted the Europeans and the Lebanese to establish firms and hence the establishment of modern business centers and the European reservation area. This development marked the beginning of large-scale immigration of various ethnic groups like the Ibos, Ibibios, Edos Urohobo, Fulani, Hausas, Nupes, Ebiras, into the city. All of these contributed to the growth of Ibadan city.
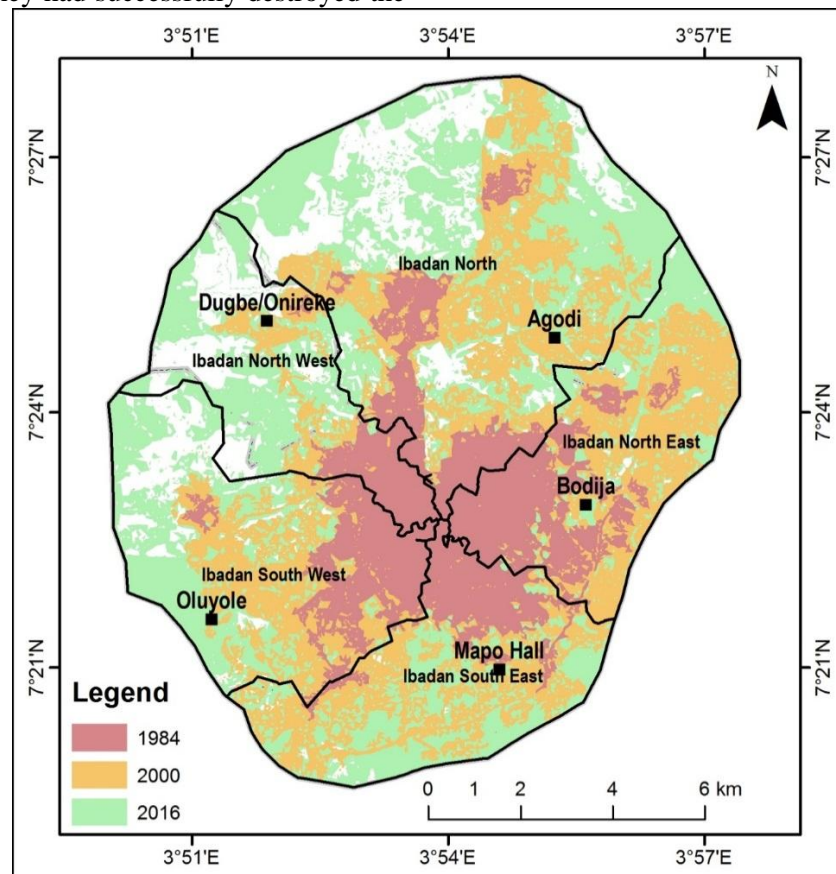


Figure 1. Spatial growth of Ibadan from 1984 to 2016

## 3. Literature Review

### 3.1. Multidimensionality and Global Assessment of QoL

Definitions of the quality of life tend to focus on its multidimensionality. Woo et al. (2018) argued, however, that such definitions confound the dimensionality of the concept with the multiplicity of the causal sources of that concept (Kim et al., 2013). They argued that quality of life could be considered 'a global personal assessment of a single dimension, which may be causally responsive to various other distinct dimensions: it is a one-dimensional concept with multiple causes. It is thus logical for a one-dimensional indicator of quality of life (e.g. a self-rating global QoL uniscale) to be the dependent variable in analyses, and the predictor variables include the range of health, social and psychological variables. A global QoL assessment is the consequence of an individual's comprehensive evaluation, which includes various physical, psychological, social, and economic, community and societal considerations. Additionally, these factors may interact, adding to the complexity of the evaluation. The predictor variables in a model of global quality of life self- evaluation would, by necessity, have to include various life domains if it is to

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mirror how those evaluations were made.

Perucca (2019) argued on the basis of this logic that a one-dimensional QoL rating, such as: How do you feel about your life as a whole (overlapping with life satisfaction scales) could be the consequence of global assessments of a range of diverse and complex factors. As the authors point out, this can be problematic for causal analyses if the QoL evaluation is greater than the sum of its parts, but the diversity, multiplicity and complexity of the sources of QoL warrants treating its measurement in terms of a global assessment.

### 3.2. A Survey of Quality of Life Indicators

There has been an increasing interest in developing generally applicable QoL indicators in the last years (Karsten, 2008). The assessment of QoL has received special attention from several international organizations, including the United Nations, the Binational Quality of Life Indicators Project, the World Bank, the World Health Organization, and the International Labor Office. The Binational Quality of Life Indicators Project (2001) specifies nine classes of indicators, which include demographic, public safety and crime, economic, education, health and healthcare, environmental, housing, transportation, and governance.

No assessment of the quality of life is an easy task. Since the mid-1960s, a major concern with assessing and monitoring national and local levels of what has been variously described as social well-being, livability, or quality of life has arisen both in governments and in the academy community of both the advanced and the Third World countries. This concern is partly associated with a changing national perspective away from a single-minded focus on economic success to a more plural set of objectives and underlying values. The choice of relevant indicators, which can effectively monitor the level of social well being or quality of life in the urban area is of major importance. Many problems confront the choice of these appropriate indicators. Some of them are in identifying relevant indicators, measuring them and in using them in intergroup comparisons. Data or qualitative or subjective dimensions of well-being are particularly elusive. As a result, there is a tendency to rely on official statistics, some of which may not effectively measure well-being in the urban area. One approach to the measurement of quality of life in the urban area is to isolate the broader dimensions of the quality of life in the city with each of these dimensions consisting of several variable elements. These dimensions and the various elements used to measure them are bound to vary from society to another depending on the level of socio-economic development, ideology, culture and aspirations of the people (Hu et al., 2022).

Sirgy (2002) defined subjective quality of life with reference to subjective well-being, itemized as happiness, life satisfaction and perceived quality of life. After reviewing philosophical concepts of happiness, he focuses on prudential (e.g. a state of well being) and 'psychological (e.g. feelings of joy) happiness as

relevant to quality of life. He argued that prudential happiness is leading a good life' as it includes both feelings of happiness and the actions that lead to personal growth. Bognar (2005), following Veenhoven (1991, 1993) defined happiness as the degree to which the individual judges the overall quality of his or her life to be favorable or unfavorable. Happiness has an affective or emotional component (World Bank, 2015).

In contrast, to morale and life satisfaction, psychologists consider happiness as a short-term affect, able to fluctuate daily, and as a transitory mood of 'gaiety and elation reflecting how people feel towards their current state of affairs (Berenger et al., 2007). Some investigators have also defined happiness in terms of life satisfaction, confusing the two concepts. For example, Argyle et al. (1989) defined happiness as the frequency of joy, the average level of satisfaction and the absence of negative feelings. Sirgy (2002), pointed to the overlap between the distinct concepts of life satisfaction (a cognitive construct) and happiness (an affective construct), which share as much as 50%-60% common variance. While health has been reported to be the main predictor of both happiness and life satisfaction Keung, Chiu and Lei, 2005), correlations between measures of these concepts might simply be tapping the underlying factors that the measures have in common (Uysal et al., 2016).

As observed before, happiness question has been asked in the US General Social Survey since 1946: *"Taken all together, how would you say you are doing these days - would you say you are very happy, pretty happy, or not too happy?"* (Samson-Akpan et al., 2013; Uysal & Sirgy, 2019).

## 4. Theoretical Framework

As set in the World Health Organization's (WHO) constitution, health is defined as a "state of complete physical, mental and social well-being and not merely absence of infirmity". Additionally, WHO had extended the conception of health to include 'sense of well-being and security. However, WHO defines cities as a large and important group of houses, buildings with a centre where amusements can be found and where business goes on. In other words, cities are the result of an enormous range of investments of capital expertise, and time by individuals, households, communities, voluntary organizations and non-Governmental Organizations (NGOs), as well as by private enterprises, investors and government agencies.

Theofilou (2013) describe cities as centres of the concentration of wealth, production and creativity. Cities are best placed to cater for their populations' at a higher quality and at a lower per capital cost. Also, in cities, people can best organize themselves to exercise their basic human rights. He concluded that the most important role of cities should be that of guaranteeing the well-being of their citizens in terms of provision of housing, health, education, and other social needs. Agbola and Agbola (1997) affirm that cities could also be looked at as artifacts, which bear imprints of

humanities institutions. By virtue of their attending characteristics, cities are ecosystems, which have structures that are patterned in peculiar ways. With urbanization, there has been massive migration of people from the rural to urban areas in Nigeria, which has led to environmental problems characterized by inadequate housing, overcrowding, inadequate supply of water, lack of drainage facilities, problems of refuse disposal, poor road conditions, erratic electricity supply, and an unbalanced economy. These accompanying social problems have manifested themselves in the form of juvenile delinquency, drug abuse, prostitution, murder, alcoholism, suicide and widespread of infectious diseases (Croes et al., 2018)

From this development, Giroult (1996) observes that the Healthy Cities (HC) concept is the answer to these needs, considering holistically all the components of urban living and the health and well being of city dwellers. Therefore, the idea of healthy cities is a new way of thinking about old problems. The goal of the HC concept is principally to improve the health and well-being of city dwellers. Aregbeyan (1996) observes that the specific objectives of the model include the reduction of the inequity of the urban environment, improving accessibility especially of the disadvantages to the basic human needs, without which a person has little or no chance to lead a fulfilling existence.

In an attempt to gain insights into the initiation, adoption and diffusion of the HC concept, the phenomenon of urbanization has emerged as the underlying factor. Urbanization has been recognized as an engine of economic growth and development. The existence of cities and mega cities implies large concentrations of population, facilities and services. The global community is thus being presented with two faces of the city – the beautiful and the unsightly. When considering what cities will be like in the developing countries in this millennium, two possible inversely proportional growths emerge: a healthy urban future and unhealthy urban future.

According to Giroult (1996), Professor Leonard Duhl from Berkley university developed the Healthy City (HC) concept to curb the shortcomings inherent in the contemporary urban environment. In their first healthy cities paper, Hancock and Duhl (1998), defines a healthy city as one that is continually creating and improving those physical and social environments and expanding those community resources, which enable people to mutually support one another in performing all the functions of life and in developing to their maximal potential. Thus, as noted by Agbola and Agbola (1997), the HC concept is a learning process whose lessons would be learned and applied over a long-term. Agbola and Agbola (1997), defines HC as one that strives to create, promote and maintain conducive urban environmental health conditions through resource pooling and resource sharing among various agencies, such as: associations and community members, local authorities and community organizations, NGOS and inter-governmental organization. The HC project challenges cities to take seriously the process of developing health-enhancing public policies that create physical and social environments, which support health and strengthen community action for health.

# 5. Research Methodology

Multi-stage sampling technique was employed for data collection. The first stage is the selection of the five Local Government Areas in the metropolis. These are Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West. The selection of all local government areas is based on the fact that all of them cut across all residential zones in the metropolis and they are all spatially exposed at the centre of the city. The second stage involves the stratification of study areas into residential zones based on Afon's (2000; 2007) scheme: the core, transition and suburban. As a result, the residential areas in the five local government areas of the metropolis were stratified into three: the core, transition and suburban.

Furthermore, local government areas in Ibadan metropolis were stratified into the existing political wards, as recognized by the Oyo State Independence Electoral Commission (2012) in the conduct of electoral polls. According to a pilot study, the total number of political wards in Ibadan metropolis was 59. In each of Ibadan North, Ibadan North East, Ibadan South East and Ibadan South West, there were 12 political wards, while Ibadan North West was with eleven (11) political wards. The spatial distribution of political wards showed that there were 29, 17, and 23 wards in the core, transition and suburban, respectively.

In the third stage, a ward in each residential zone of Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West was selected randomly without replacement for the questionnaire administration. Through this method, a total of fifteen (15) wards were selected for a survey consisting of three (3) wards, respectively, from the core, transition and suburban of the five local government area council of Ibadan metropolis. This selection represents 33.8% of the sampling frame.

The primary and the secondary data which were obtained through the GPS field operations, the quick bird image and existing maps were integrated together in the ArcGIS software from which local queries were performed to produce a GIS database containing the facilities in Ibadan metropolis.

As presented in Table 1, information from the Google Earth and reconnaissance survey revealed that there were 51, 351 buildings in the selected political wards across the three residential zones of the metropolis. These comprised 26, 427 buildings in the core residential zone, 14,924 buildings in the transition zone and 10,417 buildings in the suburban zone. Systematic sampling technique was employed to identify where households heads will be selected for survey. The first building was chosen randomly. The subsequent unit of investigation was every 50th

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building in each ward, representing 2% of the buildings in the selected wards. Thus, 1,035 buildings were sampled comprising 528 buildings in the core residential zone, 299 in the transition zone and 208 in the sub-urban zone. A household head was the respondent selected from a sampled building. In the case where the household head was not available, any available adult was sampled. Thus, a total of 1,035 copies of the questionnaire were administered during the study (Table 1).

Table 1. Buildings in the different residential zones where household heads were selected for survey

| Residential Areas | | Ibadan North | Ibadan NE | Ibadan NW | Ibadan SE | Ibadan SW | Total |
|---|---|---|---|---|---|---|---|
| Core | Total Buildings | 3 556 | 6 224 | 4 805 | 5 433 | 6 409 | 26 427 |
| | Sampled Buildings | 71 | 124 | 96 | 109 | 128 | 528 |
| Transition | Total Buildings | 5 673 | 2 580 | 1 857 | 2 238 | 2 576 | 14 924 |
| | Sampled Buildings | 113 | 52 | 37 | 45 | 52 | 299 |
| Sub-urban | Total Buildings | 2 315 | 2 195 | 2 122 | 1 792 | 1 993 | 10 417 |
| | Sampled Buildings | 46 | 44 | 42 | 36 | 40 | 208 |
| Total | Total Buildings | 11 544 | 10 999 | 8 784 | 9 463 | 10 561 | 51 351 |
| | Sampled Buildings | 232 | 220 | 176 | 192 | 212 | 1035 |

Also, residents were made to express their opinion on the condition of the facilities in their locality using a five-point Likert scale of 'Very Good' (VG), Good' (G), 'Neither Poor nor Good' (NPNG), 'Poor' (P) and 'Very Poor'(VP). Therefore, respondents also rated their level of satisfaction on each facility using a five-point likert scale of 'Very Dissatisfied, 'Dissatisfied', 'Just Satisfied, 'Satisfied and 'Very Satisfied'. The level of satisfaction was measured by an index called Residents' Satisfaction in Infrastructure Index (RSII). Procedures for arriving at the indices are discussed under chapter three.

# 6. Results

## 6.1. Factors Influencing Residents' Quality of Life Perception

The list of the eigenvalues associated with the linear component (factor) before extraction, after extraction and after rotation is presented in Table 2. Before the extraction, there were 35 linear components (same number as the available variables). The eigenvalue associated with each factor represented the variance explained by that particular linear component and represented the percentage of variance explained. From the table, the variances explained by factors 1, 2, 3 to 10 were respectively 27.38%, 22.07%, 10.64%, 6.25%, 3.61%, 3.50%, 3.28%, 2.97%, 2.50%, and 2.19%. All factors with eigenvalues above 1 were extracted and represented under the column extraction sums of squared loadings.

The last column in the table labeled rotation sums of squared loadings represents the eigenvalues of the factors after rotation. The rotation affected optimizing the factors structure and one consequence of these data was that the relative importance of the four extracted factors was equivalent.

Before rotation, variable one accounted for considerably more variance than the remaining nine (27.38% compared to 22.07%, 10.64%, 6.25%, 3.61%, 3.50%, 3.28%, 2.97%, 2.50%, and 2.19%). However after rotation it accounted for only 23.61% of the total variance (compared to 22.32%, 11.02%, 7.37%, 4.08%, 3.53%, 3.44%, 3.08%, 3.00%, and 2.95%). Altogether, they accounted for almost 84.38% of the variability in the original variables. This implied that ten indicators were associated with residents' quality of life in the three residential areas of Ibadan metropolis, but there was a room for many unexplained variations (Table 2).

Table 2. Total variance explained of residents' determinant of quality of life (Extraction method: principal component analysis)

| | Initial eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % of variance | Cumulative % | Total | % of variance | Cumulative % | Total | % of variance | Cumulative % |
| 1 | 9.584 | 27.384 | 27.384 | 9.584 | 27.384 | 27.384 | 8.264 | 23.611 | 23.611 |
| 2 | 7.725 | 22.072 | 49.456 | 7.725 | 22.072 | 49.456 | 7.811 | 22.319 | 45.929 |
| 3 | 3.723 | 10.637 | 60.094 | 3.723 | 10.637 | 60.094 | 3.856 | 11.017 | 56.947 |
| 4 | 2.187 | 6.248 | 66.342 | 2.187 | 6.248 | 66.342 | 2.579 | 7.367 | 64.314 |
| 5 | 1.262 | 3.607 | 69.949 | 1.262 | 3.607 | 69.949 | 1.429 | 4.082 | 68.396 |
| 6 | 1.223 | 3.496 | 73.444 | 1.223 | 3.496 | 73.444 | 1.235 | 3.527 | 71.923 |
| 7 | 1.148 | 3.279 | 76.723 | 1.148 | 3.279 | 76.723 | 1.204 | 3.439 | 75.362 |
| 8 | 1.040 | 2.970 | 79.693 | 1.040 | 2.970 | 79.693 | 1.077 | 3.078 | 78.441 |
| 9 | .875 | 2.500 | 82.193 | .875 | 2.500 | 82.193 | 1.049 | 2.996 | 81.437 |
| 10 | .766 | 2.188 | 84.382 | .766 | 2.188 | 84.382 | 1.031 | 2.945 | 84.382 |

## 6.2. Extracted Factors Influencing Residents' Quality of Life Perception in the Ibadan Metropolis

Usually, in factor analysis, it is possible to obtain factors that explain a large proportion of variance. This means that with factor analysis, some variables loaded high on one factor and low on the other factor(s) and, thus the need for rotation of the matrix. The rotated component matrix of factors influencing residents' quality of life perception in the residential areas is presented in Table 3. The table explains the structure of the variables studied and was used in the reduction of the variable into ten factors. Variables loading above 0.50 have been highlighted. Also, only factors that had at least three (3) variables which were highly loaded

would be named and discussed. This implied that only factors 1, 2, 3, and 4, would be named.

Table 3. Rotated component matrix of residents' responses (Extraction method: Principal component analysis; Rotation method: Varimax with Kaiser normalization; Rotation converged in 7 iterations)

| | Component | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Balance between your work and family | -.952 | | | | | | | | | |
| Family structure | -.938 | | | | | | | | | |
| Current annual income | .952 | | | | | | | | | |
| Free time or leisure time | .893 | | | | | | | | | |
| Overall health | | | | | | | | | | .862 |
| Access to healthcare services | .671 | | | | | | | | | |
| Economic opportunities | .810 | | | | | | | | | |
| The size and quality of your home | -.949 | | | | | | | | | |
| The quantity and quality of the open spaces in your house | | | | | | | | .943 | | |
| The general physical condition of your house | -.909 | | | | | | | | | |
| Quality and reliability of services provided by governments | -.956 | | | | | | | | | |
| Life in your home | | | | | | | | | .971 | |
| Neighborhood as a place to raise children | .817 | | | | | | | | | |
| General maintenance of the community | | .927 | | | | | | | | |
| Available schools within your neighborhood | | .898 | | | | | | | | |
| Water availability | | .930 | | | | | | | | |
| Electricity availability | | .989 | | | | | | | | |
| Quality of education provided to students of public primary, secondary and tertiary schools in this community | | .989 | | | | | | | | |
| Shopping mode within your community | | .985 | | | | | | | | |
| Proximity to schools | | .985 | | | | | | | | |
| Proximity to work place | | .985 | | | | | | | | |
| Absence of air pollution | | | | .873 | | | | | | |
| Absence of water pollution | | | | | .692 | | | | | |
| Absence of noise pollution | | | .871 | | | | | | | |
| Proximity to religious centre | | | | .683 | | | | | | |
| Condition of the roads | | | | | .707 | | | | | |
| Your transport to access needed services | | | | .827 | | | | | | |
| The number of recreational facilities in your area | | | .686 | | | | | | | |
| Quality of recreational facilities | | | | | | .584 | | | | |
| The safety you have at work | | | | | | | .940 | | | |
| The safety you have at home | | | .826 | | | | | | | |
| Safety in public places | | | .802 | | | | | | | |
| Safety at night in this neighborhood | | | .534 | | | | | | | |
| Safety you have during the day | | | | | | -.841 | | | | |
| Police services in this neighborhood | | | .818 | | | | | | | |

The summary presented in Table 3 shows the variables that are loaded on each factor. Ten variables are loaded on factor one. These variables are the balance between your work and family (-.952), family structure (-0.938), current annual income (.952), free time or leisure time (.893), access to healthcare services (.671), and economic opportunities (.810). Others are the size and quality of home (-.949), the general physical condition of house (-.909), quality and reliability of services provided by the government (-.956), and the neighborhood as a place to raise children (.817). In actual sense, factor 1 is associated with socio-economic and environmental factors and is so named.

The second factor of residents' quality of life perception in column two has eight variables that are highly loaded on it. These variables are general maintenance of the community (.927), available schools within the neighborhood (.898), water availability (.930), electricity availability (.989), and quality of education provided to students of public primary, secondary and tertiary schools in this community (.989). Others are in shopping mode within the community (.985), proximity to school (.985) and proximity to work place (985). These eight variables suggest individual quality of life factors and could hereby be termed Infrastructural factor.

The third factor of residents' quality of life perception is as revealed under column three in Table 3.

Six variables were strongly highly loaded strongly and positively on the factor. These are the absence of noise pollution (.873), the number of recreational facilities (.686), safety at home (.826), safety in public places (.802), safety at night in the neighborhood (.534) and police services in the neighborhood (.818). These six indicators that co-lineated on factor three of quality of life suggest the safety in the study area. This loading pattern can be designated as a safety factor.

The last factor that influences residents' quality of life perception in the study area is shown on column six of Table 3. The variables that were highly loaded on this factor are three. These are the absence of air pollution (.873), proximity to religious centers (.683), and transport to access-needed services (.827). Factor four could, therefore, be regarded as an individual factor.

Figure 2 reveals the extracted factors influencing residents' quality of life perception in Ibadan metropolis. Socio-economic and environmental factors explained 27.4% of variance, while infrastructural factors explained 22.1%. Also, factors such as safety and individual accounted for 10.6% and 6.2% of the variance, respectively. The four factors collectively accounted for 66.3% of the variance of factors influencing residents' quality of life perception in Ibadan metropolis.
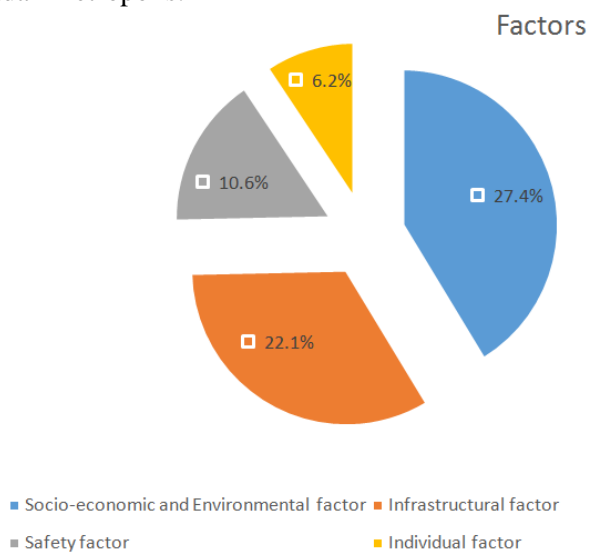


Figure 2. Factors influencing residents' quality of life perception in the Ibadan metropolis

## 7. Conclusion

The study has examined the spatial analysis of residents' quality of life in Ibadan metropolis. Correlating with the studies of Croes et al. (2018), Vogt et al. (2020), Wang et al. (2022), the study revealed that facilities such as water supply, restaurant, dispensary, drainage, electricity supply, waste disposal, fire station, among others, were insufficiently available in the study area. However, this could hamper the residents' well-being. The socio-economic characteristics of residents, such as marital status, educational background,

occupation and residents' length of stay in the study area, varied significantly across the residential areas. Thus, the study concluded that the residents' quality of life in Ibadan metropolis was poor. This study has provided information on residents' quality of life based on residents' perceptions. This information can be used by decision-makers in framing development policies aimed at improving the residents' quality of life.

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