**ARCN International Journal of Development**
ISSN: 2384-5347. Volume 8, Issue 1, (February, 2024) pages 46 – 56
DOI: 2726-4051-0815
arcnjournals@gmail.com
https://arcnjournals.org

# Residents Perception of Social Environment Attributes on Self-Rated Health in Maiduguri Borno State-Nigeria

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***Abstract***: *The pace and scale of the growth in the urban areas have outstripped the capacity to maintain acceptable standards of public health, physical infrastructural development, environmental safety, security, healthy living and social environments. Social attributes of urban environments could play major role in individual health status. The data for the study was collected from both the primary and secondary sources. Primary data was obtained through the administration of 200 questionnaires on selected households using multi stage sampling technique. The secondary data was obtained through literature searches of both published and unpublished materials. This was done by consulting relevant text books, journals, previous researches, published work and other information. Descriptive analyses were conducted to determine the means and standard deviations of the social attributes and the reported health. Information on the gender of the household heads which revealed that, males have the highest percentage of 53.9% while female headed households constitutes 46.1% in the study area. Dizziness depression and anxiety constitute the highest mean of 3.62, 3.53, and 3.51, respectively. The least was the mental loss which constituted the mean value of 3.04. The study recommends that, the Borno state government and private individuals should undertake research to understand the factors influencing health status and identify ways for improvement. Also, the non-governmental agencies should engage in interventions that improve self-rated health status tailored to the population's specific needs among others.*

***Keywords:*** *Environmental Safety, Public Health, Social Attributes.*

## Introduction

Majority of the world's population lives in cities and urban environments (Erik and Ragnar, 2017), Urbanization has therefore become a common feature and characteristics in most urban settlements. This process also creates highly heterogeneous socio-economic and environmental conditions. Urbanization presents opportunities and risks, as well as enormous challenges for maintaining and improving human health and wellbeing (Maimon *et al*, 2018). The pace and scale of the growth in the urban areas have outstripped the capacity to maintain acceptable standards of public health, physical infrastructural development, environmental safety, security, healthy living and social environments.

The density of the built environment can impact levels of trust and social capital, and lower-density forms of development can stratify communities into distinct social class group (Oluwaseyi, 2019). Social environment refers to the immediate physical surroundings, social relationships, and cultural milieus within which defined groups of people live and interact. Thus, it includes the quality of relationships – such as trust, connectedness and cooperation – among neighbourhood residents.

Social ecological conditions of local neighborhoods may influence the extent and nature of individual social ties (Juan *et al*, 2020). The effect of neighborhood stress and social support on physical health may operate partly through the impact of neighborhood on individual social networks (Zhang *et al*, 2017). Interpersonal relations and social organisation could affects physical and mental health and psychological wellbeing. An increasing amount of evidence indicated that the area of residence of individuals influences their health, either in addition to or in interaction with their individual characteristics. The effect of neighborhood stress and social support on physical health may operate partly through the impact of neighborhood on individual social networks (Zhang *et al*, 2017).

Past studies have established that neighbourhood, poverty and economic deprivation are associated with poor health outcomes (O'Campo *et al,* 2015). Social attributes of urban environments could play major role in individual health status. The luxurious and stressful life in urban centers is accompanied with various environmental issues and problems. The link between social environment attributes and health is well established and long-standing, however much of the evidence relies on self-reported health measures (Amu and Amanda, 2019), In addition, self-rated health could provide a holistic overview of both physical and mental health (Masood et al**,** 2021). It is in line with this that, this study is designed to investigate social environment attributes on resident's self-rated health status in Maiduguri metropolis.

**Statement of Research Problems**

Neighborhood socioeconomic conditions have consistently been associated with both mental and physical health outcomes (David, 2020). The social determinants of health are not equally distributed across all neighborhoods. According to Oluwaseyi, (2019), the social infrastructure that surrounds the places in which people live, consisting of services, social networks, organizational structures, political forces, and human values, can bind communities together or tear them apart. Poor living conditions lead to increased stress, social isolation, an unhealthy and unsafe environment, and increased risk of disease.

Poor neighborhoods also have relatively high rates of crime and violence. According to Jung et al, (2015), these higher rates are a result of lower levels of collective efficacy of neighborhoods. Environmental conditions and characteristics have been hypothesized to influence health inequalities such as the distribution of chronic disease outcomes, health conditions, mental health, and health behavior.

In Nigeria, several studies were conducted to ascertain the social environment attributes in urban centres. However, little or no attention has been directed towards the relationships that exist between the social environment attributes and residents' health. Adedoyin et al, (2018), assessed the factors affecting self-rated health among elderly people in Southwest Nigeria. They determine the level of satisfaction with the forms of social support received by the elderly and the factors associated with their SRH. Godwin (2019), examined mental health status of household heads using the self-rated technique, in order to determine the explanatory factors for the perceived increase of mental distress and mental health, among vulnerable household head. Auta and Paul (2020), study revealed, the analysis of some bacterial load on waste scavengers in selected locations within Jere Local Government Area of Borno State, Nigeria. In view of the limited study on social attributes in residential environment and little attention paid to the residents' perception of social environment attributes and health. To my knowledge, this is the first study that has aimed to capture the dynamic link between social environment attributes and reported health of the

residents. This research therefore attempts to fill the existing gap to investigate the perception of resident's social environment attributes on self-reported health in Maiduguri metropolis

**Aim and Objectives**

This study aims to investigate the social environment attributes on residents self-rated health status in Maiduguri metropolis. The specific objectives of the study are;

1. To describe the residents' socio-economic characteristics in Maiduguri Metropolis
2. To examine the social environment attributes of the study area.
3. To determine residents self-rated health status in Maiduguri Metropolis

**Research Questions**

1. What are the socioeconomic characteristics of the respondents?
2. What is the social environment attributes in Maiduguri Metropolis?
3. How is the self-rated health status of the residents in Maiduguri Metropolis?

**Significance of the Study**

This study is envisaged to contribute to literature on social environment attributes and residents' reported health as well as providing a robust basis for policy development, and research regarding resident's social environment attributes on the self-rated health of Maiduguri metropolis. The research will also contribute by identifying areas of potentially stressful and supportive dimensions of the social environment attributes and their impact on the reported health of residents.

Self-reported health status is associated with several health behavioral factors. If collected routinely as a vital sign, this could give the physicians the opportunity to identify and explore an incongruity in perceived health status with each individual patient in practice. It is anticipated that findings from this study will contribute to the body empirical literature on the linkages between self-reported health and neighborhood social environment attributes.

**Literature Review**

One of Sociology's most continuing contributions to the health field is the documentation that social class position is a key determinant of variations in the distribution of disease. Researchers in diverse disciplines recognize that, socioeconomic status is so strongly linked to health that they must statistically control for it in order to study their phenomena of interest (Olusola, 2020). The socioeconomic status of households plays a major role in both the health status of the individuals in a household and in the quality of their social environment situations.

Generally, the social environments of neighbourhoods can shape health—that is, by characteristics of the social relationships among the residents, including the degree of mutual trust and feelings of connectedness among neighbours (Juan *et al*., 2020). Residents of "close-knit" neighbourhoods may be more likely to work together to achieve common goals (e.g., cleaner and safer public spaces, healthy behaviours and good schools); to exchange information (e.g. regarding childcare, jobs and other resources that affect health); and to maintain informal social controls (e.g., discouraging crime or other undesirable behaviours such as smoking or alcohol use among youths, drunkenness, and littering and graffiti) all of which can directly or indirectly influence

health. The density of the built environment can impact levels of trust and social capital, and lower-density forms of development can stratify communities into distinct social class group (Oluwaseyi, 2019).

The need for a private space differs from one individual to another and varies according to culture, but the pathogenic effects of homelessness, lack of control, deportation, being uprooted, and intrusion are indications of the real importance of this need. Feeling safe in the intimacy of one's home, good neighborhood relations, respect for the boundaries provided by those parts of buildings common to all, are all essential to the feeling of well-being in housing. Loss of control over the residential environment or difficulties in appropriating space will unsettle individuals and groups. Sampson and colleagues examined the relationship between collective efficacy (a combination of trust, social cohesion, and informal social control) and violence in Chicago neighbourhoods. They concluded that rates of neighbourhood violence were lower in areas with high collective efficacy (Steve *et al*., 2020).

Neighbourhood socioeconomic conditions have consistently been associated with both mental and physical health outcomes. It is widely believed that social and physical neighbourhood characteristics mediate the effects of neighbourhood socioeconomic status on health. Fewer and weaker social networks have been associated with several adverse health outcomes including cardiovascular disease, mental health problems and higher mortality rates. Social fragmentation and the loss of social cohesion have been identified as being detrimental to mental and physical health (Sigrid *et al*., 2019). For example, high-rise buildings may inhibit social interaction because they lack common spaces. Urban sprawl increases the social stratification of communities, which can negatively affect levels of trust and undermine social capital.

According to Rollings *et al*. (2017), social scientists and social epidemiologists have turned their attention to a growing range of social and cultural variables as antecedents of health This agrees with Baqutayan (2015), who found a positive association between a more favorable social environment (trust of neighbors; exchanging help with neighbors; participation in religious organizations, friend and fellowship activities, leisure groups/organizations, and volunteer work/activities; more contact with friends) and self-rated health in both urban and rural areas after covariate adjustment.

## Health and Self-Rated Health

Today health can mean different things to different people. One of the most pertinent definitions of health is that from the World Health Organization as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity (Alessandro & Appolloni, 2020). This definition encompasses the basic elements intended to be addressed by a focus on health and wellbeing in the changing urban environment (Ogwumike & Ugwuayi, 2019). This implies that health is a positive state and that it can have several dimensions: physical, mental, and social. Others have more recently added another dimension, sometimes called "spiritual." health and welfare. Based on these definitions and according to Mathis *et al*, (2015), health has three interrelated dimensions including physical, mental and social. Although these three dimensions are interrelated and influence each other greatly, one can examine the impact of other variables on each of these dimensions separately. Johanna *et al* (2016), agreed that health has several facets, involving personal characteristics, behavioral aspects, and socio-physical environment features.

In recent decades, a growing awareness of an ecological impact on health outcomes has led to an emergent body of research in this area (Judy *et al*, 2018). In addition to individual factors,

environmental conditions and characteristics have been hypothesized to influence health inequalities such as the distribution of chronic disease outcomes, health conditions, mental health, and health behavior. Self-reported health, a predictor of both morbidity and mortality, has been found to be related to environmental characteristics including neighborhood socioeconomic disadvantage, social environment, the built environment, and the physical environment.

Health status is an individual's relative level of wellness and illness taking into account the presence of biological or physiological dysfunction, symptoms, and functional impairment (Ogwumike and Ugwuayi, 2019). Perceived health status is subjective rating by an individual of his or her health status. Physical function is the ability to perform daily activities and is usually evaluated through self-reported or performance-based measures in which an individual is as ked to indicate his/her perceived level of function during daily activities, using standardized questions (Tomioka *et al*, 2019).

Self-reported health data research has largely focused on public or population health uses of data collection. These data are primarily used to make conclusions and decisions about the health of a group rather than individuals (Juan *et al*, (2020). Self-reported health data is collected by direct interview, written, or telephonic completion of a questionnaire. Self-rated health was introduced 1958 by Suchmann, Phillips and Streib (Arlesia *et al,* 2015). Firstly, it was used as a conversational way to open up health issues in questionnaires. According to Mario *et al*, (2020), self-rated health can also capture the full array of disease that people have, and sometimes even symptoms relating to an undiagnosed illness. It is a way of evaluating the state of health in individuals, which integrates information on the biological, mental, functional, and spiritual dimensions of the person's health (Jung *et al,* (2015). It represents the perception individuals have of the different dimensions of their state of health. Everybody knows what health is and can give a rapid and spontaneous answer to questions about their own health (Juan *et al,* 2020), Self-rated health is a multidimensional measure that captures not only one's physical health status, but also social, emotional, and psychological well-being (Valerii *et al,* 2021).

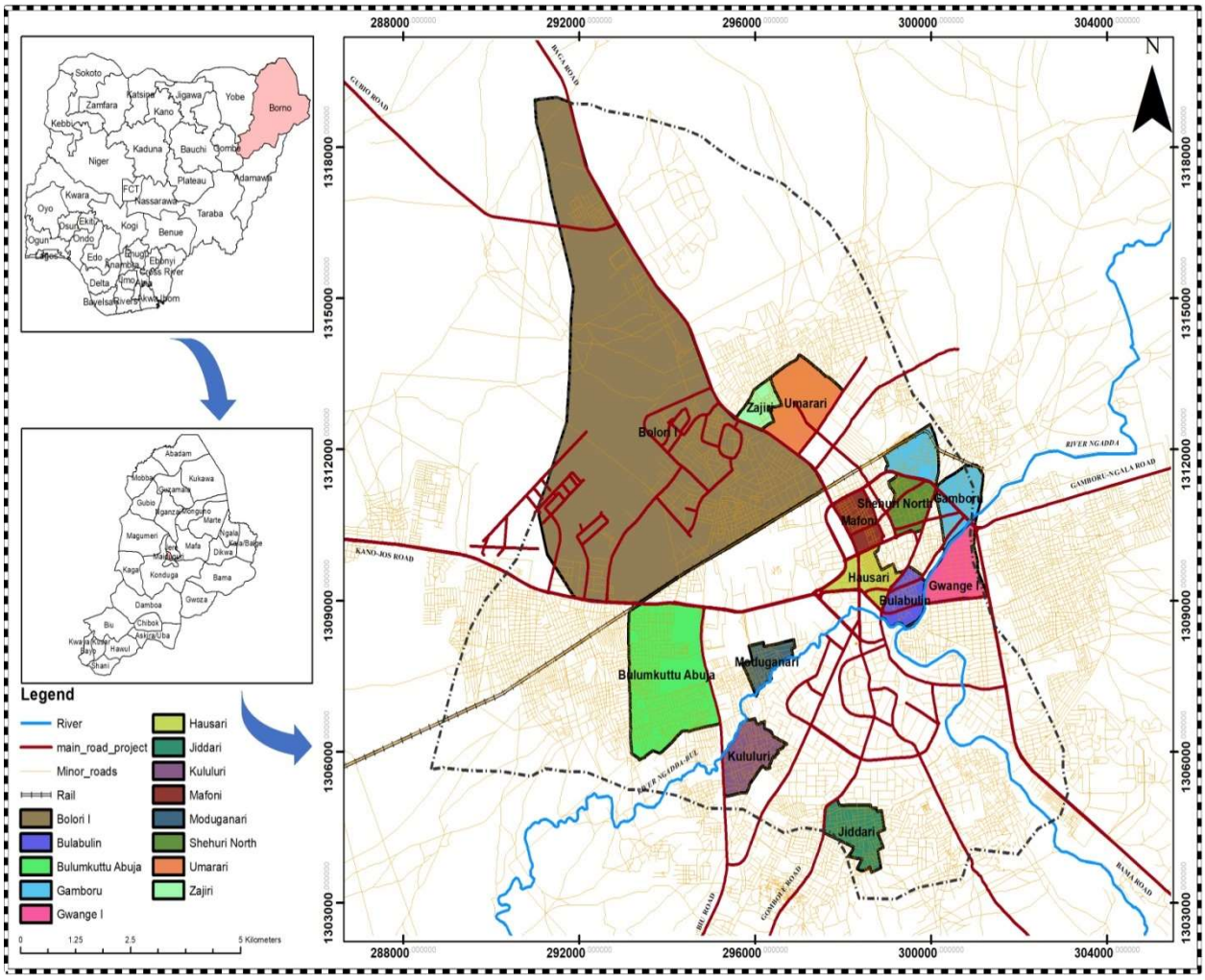
**Study Area**

Maiduguri the Borno State capital is a fast-growing urban area. Over the years, rapid changes have been noted in its physical extent, population size and land use. It has long been one of the dominant cities in the north eastern Nigeria, and its location close to the republic of Chad, Niger and Cameroun, gives it an increasing significance as a center of commerce, transport, education, religion and administration. It covers a total area of 543sq km which makes it the largest city in the North Eastern region of Nigeria. According to the United Nations World Population Prospect (2023), Maiduguri metropolis has a population of 845,000 a 2.8% increase from 2022.
The city lies on Latitudes 11º05¹North and Longitudes 13º05¹East and it stands some 350 meters above sea level. Although Maiduguri is predominantly a Kanuri town, it has always been and the host to other parts of Nigeria and Africa. Almost all languages and cultural groups from across Nigeria and neighbouring countries can be found in Maiduguri. The nearest major towns in Nigeria are Damaturu (about 135km), the capital of Yobe state, Bauchi the capital of Bauchi state and Kano the capital of Kano state, which are almost 450 and 600km to the southwest from the state capital.

The climate of Maiduguri belongs to the semi-arid type. The climate is divided into two seasons, the long dry season which comprises the cold dry season (Harmattan season) from December to February; and the hot dry season from usually from march to late May and the short wet (raining season) from June to September and the humid transitional period between September and

November (Muhammad *et al*,2009). The mean precipitation rate varies from 350mm/year to 700mm/year depending on the seasons. The mean monthly temperature is always above 20°C, reaching up to 47°C in April. The climate of the area is affected by the North East Trade Winds and the South West Monsoons.

The vegetation of this area is similar to that of Sahel Savanah. Maiduguri is transverse by the Bama Ridge which runs in a North West - Southeast direction from the Republic of Niger boundary to the Cameroun Mountains; it is a high dune of sand and grit thrown by Mega Chad at its southwest shoreline. The topography and landscape to its Northeast and Southwest is featureless and flat. This area is surrounded by farmlands. The natural vegetation has been disrupted by man's modification for cultivation and building purposes. The crops planted along the flood plain are millet, guinea corn, maize, groundnuts, beans and vegetables.




*Map of Nigeria, Borno and Maiduguri (Google Earth, 2023).*

## Materials and Methods

The data for the study was collected from both the primary and secondary sources. Primary data was obtained through the administration of questionnaires on the selected households. The secondary data was obtained through literature searches of both published and unpublished

materials. This was done by consulting relevant text books, journals, previous researches, published work and other information.
Multi-Stage sampling technique was employed to establish the number of households to be surveyed across the study area. In order to get a representative sample for the study, neighborhoods in Maiduguri metropolis were clustered into five (5) existing residential districts; namely. Yerwa, Bolori, Shehuri north, Gwange and Maisandari districts. A random sample is drawn only from the cluster or group with similar characteristics as recommended by (Alvi, 2016). Systematic random sampling approach was employed to select respondents in the area, every $7^{th}$ house in each of the area involved were interviewed.

A 22-item, semi-structured questionnaire was administered to the respondents. The questionnaire had three major themes namely: socio-demographics, social environment attributes and the residents self-rated heath status. A total sample of informed 200 (capable of providing information about the social environment attributes and self-rated health) adults aged 18 years and older, living in a housing unit in the selected neighborhoods, was selected for the study.

The data obtained was subjected to general descriptive statistical treatments using cross tabulation and percentages of frequency distribution for the demographic data. For analysis of closed-ended questions, a computer programme called Statistical Package for Social Sciences (SPSS) was used. Descriptive analyses were conducted to determine the means and standard deviations of the social attributes and the residents' reported health.

**Results and Discussion**

**Demographics**

The demographic information of the respondents was collected. The frequency and percentage analysis were carried out to explore the respondents' profiles. Information on the gender of the household heads which revealed that, males have the highest percentage of 63.9% and female headed households constituted 36.1% in the study area. This means that males dominated the responses in the study area. Regarding the age of household heads, ages between 30yr to 60yr constitute the highest percentage of 46.4%, followed by ages above 60 years which constitutes the percentage of 31.1%. The least age was under 30 years, constituting 22.5% in the study area. Regarding the educational qualification of household heads, the results indicated Diploma/NCE constitutes the highest percentage of 36.6%, the majority. HND/Degree comes second with a rate of 27.8%, and Primary/Secondary has a rate of 21.5%. In the employment status of household heads, Artisan/ Craftsman constitute the highest percentage of 34.4%. Business/Trader constitute the percentage of 28.1%. Farming/fishing and Civil servants constitute 19.6% and 13.1%, respectively.

Regarding how long they have been staying in the neighbourhood, 6-10 years constitute the highest percentage of 30.4%, 16 years and above constituted 25.3%, while 11- 15 years constitute the percentage of 25.0%, and the least was less than 5 years which constitute the percentage of 19.3%. Lastly, the analysis provides the type of residential house occupied by households, where multiple-family houses constitute the highest percentage of 32.8%; traditional compounds constitute 26.6%, while others and single-family flats constitute the least percentage of 23.0% and 17.6%, respectively.

**Social Environmental Attributes**

Descriptive statistics based on mean ranking was carried out to explore the social environmental attributes and the self-rated health status of the residents in Maiduguri Metropolis.

The results showed the ranking, mean standard deviation and remark for each item. Findings from the social attributes indicators of social environmental attributes where interaction with neighbours (M=3.46, SD=1.226), participation in clean-up/sanitation exercises (M=3.24, SD=1.157), and safety to go on walks at night have the highest quality attributes of (M=3.14, SD=1.162), while overall result for social environmental quality attributes indicated fair quality. Also, willingness to help has reported mean value of M 2.95 and SD of 1.340. Also get along with each other with a mean value of M 2.73 and SD of 1.226 is reported. Safety to go on walks at night with a mean value of 3.14 and crime rate with 2.76 mean value have fair quality attributes of the social environment of the study area.

**Respondents Self-Rated Health Status**

The results on the respondents self-rated health status in the study area. Headache, malaria/typhoid fever and respiratory infection have the highest mean of 3.65, 3.46, and 3.46, respectively. The least was kidney diseases which constituted the mean of 2.74. The overall results for self-rated health (diseases occurrences) indicated moderate occurrence in the study area. Headache, malaria/typhoid fever and respiratory infections/diseases are the major reported diseases, while kidney diseases are the least in the study area.

Self-rated health status measures how an individual perceives their overall health. It is often used as an indicator of overall well-being and can be used to assess the success of health interventions. Health is a dynamic equilibrium between man and his environment (Jack, 2016). It is determined by several factors including genetic inheritance, personal behaviors, access to quality health care, and the general external environment such as water, air and living conditions of the people. Educational attainment of a person is also many a times linked with one's health (Erik & Ragnar, 2017).

In addition, findings from the mental health occurrences, where dizziness, Depression and Anxiety constitute the highest mean of 3.62, 3.53, and 3.51, respectively. The least was the mental loss which constituted the mean of 3.04. The overall results for occurrence of mental health issues indicated moderate occurrence in the study area. Dizziness, depression and anxiety are the major mental health occurrences, while mental loss is the least mental health issue in the study area. This suggests that dizziness and depression is more common than sleep disorders in this area. Difficulty in hearing is reported to have a mean value of 3.34 and SD of 1.191 in the study area.

Fernando, *et al*, (2018), confirmed that living near to extended family members or with an ethnic group helped in reducing stress, encouraged people to interact, avoided isolation and loneliness. They further observed that, people in these circumstances reported receiving emotional support, material support, household maintenance, and child welfare and proofed that by having good social life, mental wellbeing is improved consequently. Fear of crime is a significant urban stressor that has harmful psychological effects on individual's wellbeing (Hedayati *et al*., 2019). The effects of the built environment on individual's fear of crime are not new. This suggests that further work needs to be done to ensure that all residents have an environment that is safe and conducive to healthy living. Additionally, it would be beneficial to focus on increasing participation in clean-up/sanitation exercises among residents to create a more community-oriented environment. Doing so would help foster a sense of ownership and responsibility for the quality of their living space.

## Recommendations

1. The Borno state government should ensure social environment quality attributes be improved by increasing the level of community amenities in neighbourhoods, particularly those with a high prevalence of crime.
2. That the state should ensure that social environment quality attributes be improved by increasing the presence of diverse community groups in neighbourhoods, which can help to foster a sense of community and discourage crime.
3. The Government and private individuals should undertake research to understand the factors influencing health status and identify ways to improve it.
4. non-governmental agencies should engage in interventions that improve self-rated health status and tailored to the population's specific needs.
5. The primary healthcare education programmes should target specific self-rated health than generic health education programmes.

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