Housing Characteristics, Neighbourhood Factors and Psychological Distress in Ibadan, Nigeria

C.O. Olatubara
Department of Urban and Regional Planning, Faculty of the Social Sciences, University of Ibadan.

Abidemi R. Asiyanbola
Department of Geography and Regional Planning, Faculty of the Social Sciences, Olabisi Onabanjo University, Ago-Iwoye, Ogun State

This paper examines the influence of housing characteristics and neighbourhood conditions on the psychological distress of residents in the traditional African city of Ibadan, Nigeria. A cross-sectional survey of 721 households was carried out in order to provide the requisite data for this paper. Questionnaires were administered on households in selected residential neighbourhoods. The data used included the characteristics of each residence and neighbourhood as well as ten items of psychological distress that reflect various symptoms, including aspects of anxiety and depression. The results indicated that households with low psychological distress levels were more concerned about the characteristics of their house, while those with high levels of psychological distress have a higher association with their neighbourhood characteristics. It is, therefore, necessary that planners and policymakers seek to do more than merely providing housing; they should also anticipate the various psychological conditions that may ensue from the type and characteristics of housing provided.

Keywords: Housing, psychological distress, neighbourhood characteristics, Ibadan

Introduction
The healthiness and effectiveness of individuals in the discharge of their daily responsibilities and participating in various urban activities are strongly linked to housing and neighbourhood characteristics. The housing sector in Nigeria has, however, been under intense pressure, due to a variety of factors, especially population growth. The rapid rate of urbanization and its attendant socioeconomic and spatial consequences are of tremendous concern, especially to professionals in housing matters, government policymakers and economic analysts. It should be noted that the problem in Nigeria is not primarily due to the level, but the rate of urbanization. For example, while the percentage of urbanization in Nigeria is 36, that of South Korea is 79, Mexico 74 and Colombia 71 (Population Reference Bureau, 2001). However, while the annual rate of urbanization in Seoul is 7.8 per cent, Mexico City 5.5, and Bogotá 5.4, that of Lagos is about 15 per cent (FGN, 1991). The rapid rate of urbanization is so overwhelming that urban managers find it difficult to respond to the dynamics of urbanization due to inadequate facilities and resources at their disposal.

It is a well-known fact that a major factor in urbanization is the rural-urban migration rate, which has intensified significantly because of the uncoordinated urban-rural interdependence, especially the lopsided development attention given to the urban
centres. The various efforts of successive governments in Nigeria to control this migration rate have not been inspired by the desire for equity and justice in the distribution of the nation's wealth; rather, it is because rural dwellers have improved their strategies of attracting attention by extending their problem fields to urban centres (Olatubara, 2000). This variety of ensuing problems that have been documented by the National Urban Development Policy of 1997 include:

- Nigerian towns and cities experience growth without adequate planning;
- the land, water, coastline, air and other natural assets are being rapidly polluted, creating, in the process, a loss of valuable resources;
- a large percentage of the people live in sub-standard and sub-human environments plagued by slum, squalor and grossly inadequate social amenities;
- there is consistent decay of the urban environment and impoverishment of rural areas, neither of which condition is conducive to healthy living.

The housing sector is usually the first to be hit by the influx of people to urban centres (Onibokun, 1985; Aina, 1989; Hamdi; 1991; Olatubara, 2007). It is significant to note that the rate of housing delivery falls short of the rate of urban growth and housing need. Agbola (1998) noted that the prevailing housing problems in Nigeria include: acute housing shortage; overcrowding; unsanitary living conditions; exorbitant rent, vis-a-vis tenant's income and the exploitative tendency of shylock landlords; the high rate of homelessness, especially in the urban areas; and the high rate of substandard housing.

Rapoport (1969) noted that houses are the direct expression of changing values, images, perceptions, and ways of life, as well as of certain constants. The house is thus an institution, created for a complex set of purposes, and not a mere structure. The passive function of a house is the provision of shelter, while its active function is the creation of an environment best suited to the way of life of a people — in other words, a social unit of space. For this reason, there are different types of houses for different categories of people and for different purposes (Agbola, 1989).

The choice of housing made by a household is influenced by a complex consideration of several factors, which include socioeconomic, cultural, environmental, administrative, and psychological factors. A household expects a minimum level of satisfaction from the unit of housing being used. Since there is spatial variation in the housing and environmental conditions prevailing in different parts of an urban centre, the direction of this expectation also differs spatially. It has been observed in developing countries that the relationship between the assessment of satisfaction and the aggregate housing quality of a residential area is insignificant — for instance, a squatter settler prefers and is satisfied with a modest environmental quality (Griffin-Wulff and Chi, 1980; Olatubara, 1994; Agbola 2004). Salau (1990) noted that the satisfaction people derive from a housing unit and the quality of the housing itself largely depend on the availability of essential social services and infrastructures. Balogun and Olapegba (2007) noted that considerations for housing, with regard to the location, include more than tangible, structural and government factors; personal, emotional and psychological factors are also of great importance.

The ability of households to extract socio-psychological satisfaction from a housing unit, therefore, depends on several factors. Different housing and neighbourhood characteristics present different levels of satisfaction or distress. It is evident in some empirical studies (Stokes, 1962; Okpala, 1978; Griffin-Wulff and Chi, 1980) that housing quality alone does not fully explain the level of satisfaction/dissatisfaction of each household with its housing condition. There is also a systematic variation in the living conditions in the urban area and such variation influences the distribution of some urban facilities (Abiodun, 1990).

Review of Literature
Crowding is an experiential state in which the physical aspects of limited space results in some psycho-physiological reactions (Choi, et al., 1976). Crowding
is determined by the density factor (number of persons per spatial unit). Household has been defined as spatial units, where members live in the same dwelling and share basic domestic and/or reproduction activities such as cooking and eating (Chant, 1997; Young, 1995; Mishra, 1992; Robertson, 1984). Fuller (et.al 1996) stated that the household is the nexus of daily life, a continuing experience such that the degree of household crowding is an objective reality. Indeed, by compressing more and more people into a finite amount of space the number of intrusions or unwanted inputs from others multiplies and leads to interruptions in an individual's activities. There may be little opportunity to escape interaction with others in a 'primary environment' such as household (Stokols, 1978; Fuller et al., 1996). Fuller et al. also noted that when there is a deficiency in a needed space or the inability to have privacy, people may find it difficult to cope because of continued stimulus overload. They argue that since the household represents a place to which one habitually returns, environmental deficiencies can act as chronic stressors, which intensify psychological reactions. If the stress is intense and continuous, coping mechanisms may be rendered ineffective and the resulting psychological reactions may be particularly adverse (Fuller et al., 1996).

This study is also situated in the broader literature on understanding the relationship between places and people (Fuller et al., 1993; 1996; Lin and Lai, 1995; Yen and Syme, 1999; Pickett and Pearl, 2001; Sabramanian et al., 2001; Macintyre et al., 2002; Gee and Takeuchi, 2004; Boardman, 2004; Ross et al., 2004; Galea et al., 2005; Stafford et al., 2005). Most of these studies were done in developed countries, although, some focussed on the developing countries. Such studies are, however, rare in Nigeria.

Most of these studies have examined the relationship between places and health and/or psychological distress, suggesting that health is a function of the characteristics of individuals and those of the environment. Underlying this type of study is the theoretical construct of compositional, contextual and collective characteristics, all of which constrain and enable individual health possibilities. Compositional characteristics refer to the residents' characteristics; contextual characteristics refer to local physical and social environments, while collective characteristics refer to the socio-cultural and historical features of the communities (Macintyre et al., 2002). Pickett and Pearl (2001) noted that 23 of the 25 studies reviewed reported a statistically significant association between at least one measure of the social environment and a health outcome (contextual effect), after adjusting for individual level of socioeconomic status (compositional effect). They observed that contextual effects were generally modest and much smaller than compositional effect.

Studies on the effects of household crowding have produced mixed results. This is partly due to the fact that the level of household crowding varies from country to country and is generally much lower in developed countries than in developing countries. Also, as others have suggested, the effects of crowding may well vary from one culture to another (Booth, 1976; Gove and Hughes, 1983; Booth et al., 1980; Gove et al., 1979; Taylor, 1988; etc). In North America, for instance, Baldassaire (1979) found no relationship between household crowding and psychological well-being. In Toronto, Booth (1976) found a significant positive relationship between subjective crowding, but not objective crowding, while Gove and Hughes (1983), in their study of Chicago, concluded that crowding has a significant negative effect on some aspects of mental health, and that the subjective experience of crowding has a stronger relationship on mental health than does objective crowding. In their study in Bangkok, Fuller et al. (1996) found objective household crowding to be detrimental to psychological well-being, due to a number of background characteristics. They found the effect of objective crowding to be mediated by subjective crowding, which has strong, consistent and detrimental effects on well-being.

There have been a number of studies on the effects of household crowding in some developing countries, including Singapore, Manila, Hong Kong, India and Thailand (Hassan, 1977; 1978; Jain, 1989; Marsella et al., 1970; Mitchell 1971; Fuller et al., 1996; etc).
However, such studies are rare in Africa and in Nigeria in particular.

The main thrust of this paper is the assessment of the linkages between neighbourhoods within which a household reside and the attendant psychological distress that emanates therefrom.

**Method of data collection and analysis**

The data used in this paper were obtained from a cross-sectional survey of 721 households in Ibadan, Oyo State, Nigeria. The sampling frame was the total number of estimated households in Ibadan municipal area as at 1999. For the purpose of intra-urban analysis, each locality in Ibadan, as defined by the National Population Commission (NPC), was sorted into three residential areas: high density residential area (comprising the traditional core high density residential areas and the non-traditional core high density residential areas); medium density residential areas; and low density residential areas (Mabogunje, 1962, 1968; NISER, 1988; Ayeni, 1994; Filani et al., 1994; Abumere, 1994; Olatubara, 1994).

The sampling procedure was systematic random sampling; it was used to select houses along the streets in each locality. From each selected house, a household was randomly selected and the household head, interviewed. The data gathered were on household crowding variables and neighbourhood characteristics. Dummy variables were used to measure subjective components of household crowding. The respondents were told to confirm such statements as:

1. At home, there are too many people around
2. In this house, I have almost no time alone
3. In my house, people get in each other's way
4. At home, I do not have enough room to do things conveniently.

Psychological distress has two major forms: depression (feeling sad, demoralized, lonely, hopeless, worthless, wishing you were dead, having trouble sleeping, crying, feeling everything is an affront and being unable to get going); and anxiety (being tense, restless, worried, irritable and afraid) (Mirowsky and Ross, 1989; Fuller et al., 1993). But there is an argument that depression and anxiety are not distinct forms of psychological distress; that they are intertwined (Mirowsky and Ross, 1989; Dohrenwend et al., 1980). But this study adopted the argument of Fuller et al. (1993), which uses ten items to reflect various symptoms, including aspects of anxiety and depression. With regard to the first nine items, the respondents were asked to indicate how often they experienced certain feelings in the previous weeks. The response categories were: often, sometimes, rarely, or never. The feelings were:

1. Anxious about something or someone
2. People were trying to pick quarrels or start arguments with me
3. So depressed that it interferes with my daily activities
4. Personal worries were getting me down physically; that is, making me physically ill
5. Moody
6. I felt confused, frustrated and under a lot of pressure
7. I was nervous, i.e., being irritable, fidgety, or tense
8. I felt that nothing ever turns out for me the way I want it
9. I had trouble concentrating or keeping my mind on what I was doing

The tenth item was a Yes or No question: Are you the worrying type? (cf. Fuller et al., 1993:1421-1422).

The responses were computed and the respondents classified into ‘low’ and ‘high’ psychological distress groups.

The socioeconomic variables used in the analysis included income (total household income in naira), educational level, occupation, age, household size (number of people in the household), and ownership of car (or transport vehicle). The housing characteristics used in the analysis included housing type (that is, flat, duplex, mansion), housing value (annual rent total in naira) and house location distance to the central business district (CBD), both traditional (such as Mapo) and modern (such as Dugbe).
Analysis and Results
To provide insight into the distinguishing characteristics of households with either high or low psychological distress, the stepwise linear discriminant analysis was used to identify the underlying characteristics and their relationship to the two groups of households. Table 1(a and b) summarizes the canonical discriminant functions with eigenvalue of 0.102 and canonical correlation value of 0.304 between the groups. The discriminant model was significant, with a chi-square value of 54.644. The Wilks’ lambda value was high, with a value of 0.907. Table 2 shows the discriminant classification function coefficients of the two types of households. Three discriminant variables were entered into the model as significant. Households with low psychological distress had high levels of associations with perceived crowding (9.728) and shared essential facilities (2.249). On the other hand, households with high levels of psychological distress associated highly with neighbourhood conditions (0.926).

Table 1a. Summary of canonical discriminant functions: Eigenvalues

<table>
<thead>
<tr>
<th>Function</th>
<th>Eigenvalue</th>
<th>Percentage of variance</th>
<th>Cumulative percentage</th>
<th>Canonical correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.102</td>
<td>100.0</td>
<td>100.0</td>
<td>0.304</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2001

Table 1b. Summary of canonical discriminant functions: Wilks’ Lambda

<table>
<thead>
<tr>
<th>Test of Wilks’ Lambda</th>
<th>Function</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.907</td>
<td>54.644</td>
<td>3</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2001

Table 2. Classification function coefficients

<table>
<thead>
<tr>
<th>Psychological distress</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Crowding</td>
<td>9.728*</td>
<td>7.737</td>
</tr>
<tr>
<td>Neighbourhood Conditions</td>
<td>0.821</td>
<td>0.926*</td>
</tr>
<tr>
<td>Essential Facilities Shared</td>
<td>2.249*</td>
<td>1.421</td>
</tr>
<tr>
<td>Constant</td>
<td>-6.893</td>
<td>-6.285</td>
</tr>
</tbody>
</table>

Fisher’s Linear Discriminant Functions.
Note: * = higher row value

The results showed that households with low-level psychological distress are more concerned with the houses they occupied. This is reflected in the perception of crowding in the house and the sharing of facilities with other residents. However, households with high-level psychological distress are more concerned with the neighbourhood conditions of their residence. This relates to a wide variety of situations that cover neighbourhood qualities, in terms of road network, security, neighbourhood social characteristics, and so on. Table 3 shows the classification summary, with 67.3% of originally grouped cases correctly classified.

Table 3. Classification results

<table>
<thead>
<tr>
<th>Psychological distress</th>
<th>Predicted group membership</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Original Low</td>
<td>54</td>
<td>26</td>
</tr>
<tr>
<td>Number High</td>
<td>159</td>
<td>327</td>
</tr>
<tr>
<td>Ungrouped</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Percentage Low</td>
<td>67.5</td>
<td>32.5</td>
</tr>
<tr>
<td>High</td>
<td>32.7</td>
<td>67.3</td>
</tr>
<tr>
<td>Ungrouped</td>
<td>40.0</td>
<td>60.0</td>
</tr>
</tbody>
</table>


It is also important to identify the explanatory factors in households with high or low psychological distress. Stepwise multiple linear regression analysis was, therefore, carried out using some selected independent variables of socioeconomic, household and housing variables. Six variables were identified as predictors (table 4). The regression equation is significant (table 5), with an f value of 15.149 at p < 0.5.
The regression estimates for the model are shown in table 6. The six significant variables (in order of importance) are perceived crowding, neighbourhood conditions, roofing materials, distance to the central business district (CBD) Dugbe, satisfaction with respect to housing, and presence of parking facilities. These six variables are, however, low predictors because, as shown in table 4, they were able to explain only about 14% of the variation in the two groups. However, using the unstandardized coefficients, the results imply that the most effective way to reduce psychological stress would be to improve neighbourhood conditions (-0.001). Other important measures would be to enhance accessibility to CBD (-0.101) and improve the levels of satisfaction with housing (-0.366) to reduce psychological distress.

Conclusion
This paper has drawn the link between neighbourhood characteristics and distress factors in Ibadan. There is a relationship between low household distress level and the characteristics of the house occupied. On the other hand, there is a link between high distress level and neighbourhood characteristics. These characteristics consisted of a wide variety of neighbourhood qualities, such as road network, facilities provision, security, and so on.

The study is significant for physical planners and policymakers in that, while the types of houses provided for households are considered important (especially with regard to meeting the minimum decent habitable level), the neighbourhood environments of such houses are should be considered much more important.
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Biographical Note
C.O. Olutubara is a reader and the head of the Department of Urban and Regional Planning, University of Ibadan. His research area is housing, where he has published extensively. He is also a registered town planner.

Ahbidenti R. Asiyambola is a senior lecturer and head of Geography and Regional Planning, Olabisi Onabanjo University, Ogun State. He is also a registered town planner.