

# Marital Status and Crowding Intensity

(The Case of Multifamily Apartments in Lagos, Nigeria)

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Received 07. 15. 2013; Accepted 09. 23. 2013

**ABSTRACT:** In Nigeria, crowded housing is one of the housing stresses that bother policy-makers and housing authorities. This study examines the crowding levels in seven marital status categories among the occupants of Lagos State Development and Property Corporation's apartments. The focus is on the capacity of an apartment's internal spaces to meet the sleeping needs of households in different marital arrangements. A case study of four housing estates was purposively selected among Lagos State Development and Property Corporation's multifamily categories, with a population of 7,764 apartments. A sample of 7.5% (582) was chosen using stratification and systematic random techniques. A pretested questionnaire instrument was used to collect the relevant demographic data of occupants. The occupants in different marital arrangements were grouped into three: households that harboured one to two occupants; households that harboured three to five occupants; and households that harboured six or more occupants. The result shows that households containing three to five persons were the most dominant in all apartment types while households that contain six or more persons were very few. Generally, the result showed no substantial disparity in the incidence of crowding among households of various marital classifications in different apartment types. The link between "Separated" and "Divorced" was revealed, as both types were not found among respondents living in two-bedroom apartments. The number of occupants in the "just single" and "married" categories were high compared to others. These results are significant for policies regarding occupancy, crowding and design of Lagos State Development and Property Corporation's apartments.

**Keywords:** Crowding, Density, Dwelling density, Marital status, Household composition, Multifamily apartments.

## INTRODUCTION

The number of persons to a dwelling, the household demographic characteristics, and the physical design of the habitable spaces in the dwelling units are all highly regarded when considering the conditions of residents. In human settlements and housing sectors, certain key measurement techniques such as crowding and density have been developed to measure the quality of life of households. The level of crowding is taken as a manifestation of use of space in specific multifamily design types.

The occupancy stage of housing developments provides an opportunity to obtain an actual measurement of crowding intensity in different types of housing units. Furthermore, the experience of residents during occupancy provides a basis for assessing the sufficiency of the spaces available in each model of housing unit. Tipple (1987) justifies this claim by arguing that housing is a basic need and should fit the spatial requirements of its occupants as its primary function.

Hence, a more detailed understanding of crowded housing remains one of the major concerns of policy-makers and housing authorities in Nigeria that has not yet been adequately addressed. Understanding crowding intensity is important because it might be a sign of housing stress. The crowding context provides a basis for identifying LSDPC<sup>1</sup> housing units where occupant households live in conditions that can be interpreted as deeply problematic. In this study, crowding intensity provides a basis for measuring how well the various

multifamily housing units in the staple of LSDPC are meeting the substantive living needs of occupant households. This will provide clues on how LSDPC might improve the quality and habitability of its multifamily housing stock. It has been argued that there is a limit to the number of persons an apartment of a given size can physically and comfortably accommodate (Obateru, 2005).

The absence of comprehensive study of crowding as it relates to marital status differentiation in LSDPC's estates is a gap that this research addresses. Since LSDPC is known for repeatedly constructing prototype buildings for its mass-housing schemes, examining the actual experiences of households of different marital classifications in various multifamily apartment types will provide a policy guide for improvements in the future. This study applies the traditional measures of household occupancy to investigate the crowding experiences among households of different marital classifications in LSDPC's multifamily apartments in Lagos, Nigeria. Therefore the aim of this study was to determine the intensity of crowding for different marital classifications in the various apartment types.

Studying contemporary marital living patterns in LSDPC estates can help the agency to better its understanding of on-going socio-demographic changes. This information is valuable in providing a check against possible over-crowding or under-crowding. The specific problem of crowding intensity therefore introduces the values, norms and lifestyle of apartment users into the research (Moustafa, 2009).

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### Household and Crowding

Every household is in a stable state. A state describes the household's current status. For example, states might be single mother household, single father household, and so forth. Movement from one state to another may occur, but the impact of such transitions was considered negligible, since households were classified on the basis of their current state. Household size is statistically a good proxy to measure crowding intensity. Data dealing with household size are often times descriptive in nature, showing simple associations. Studies of household likelihood of being crowded generally look at the independent relationship between crowding and a given determining factor, once all other characteristics are taken into account. The present study examines households' marital statuses as a determinant of the likelihood that a particular household is crowded.

There is no one international standard definition of crowding. This study defines household crowding in terms of the capacity of a dwelling's internal spaces to meet the existential needs of the household. This definition takes into account age, sex and household composition. The issue in focus here is the number of persons in the apartment, based on traditional measures of household occupancy. Crowding intensity as used in this study is based on objective statistical measures of density and does not incorporate people's perceptions of crowding. This definition of crowding intensity expresses a judgment about density levels. That is, it sets a standard by which crowding level corresponding to a particular density can be declared acceptable or unacceptable.

Overcrowding is used as a normative standard to quantify the prevalence of crowding. Over-crowding occurs when the size of a household is larger than the capacity of the apartment to provide adequate accommodation. That is, over-crowding exists when the number of people using an apartment exceeds the number for which it was designed (Akinmoladun & Oluwoye, 2007).

Crowding and overcrowding should not be confused with density. Density is an objective measure and refers to the number of people in any given space - e.g. per square metre, per room, per dwelling or per hectare. The term has no positive

or negative connotations. The distinction is important because the same objective density may or may not be uncomfortable depending on the situation. Definitions of crowding used in statistical reporting and for administrative purposes are based on density measures and do not usually incorporate people's perceptions of crowding.

It is possible to measure crowding using either a normative or a perceptual approach. Several commentators feel that the normative approach adopted by decision-makers is essentially paternalistic in that the standards set do not necessarily represent the views of many population groups and are likely to incorporate cultural biases (Barnett & Lowe, 1991; Mitchell, 1976). They argue that measures that include consumer preferences would be more grounded in social values and create socially relevant standards, not bureaucratically determined ones (Winter & Stone, 1997). Crowding standards change over time as economic conditions and social expectations change. However, the process by which standards are established or modified or the reasons for doing so are rarely explicitly described (Myers et al., 1996). This makes it extremely difficult to argue conclusively for one standard of crowding over any other. Morrison (1994), for example, notes that during the past two generations household size has been falling while dwelling size has been increasing in New Zealand. According to him, measures of crowding have also changed over time and may need to change again. What is needed now is further research to assess adequate dwelling consumption based on measures of crowding and crowding intensity experience.

## MATERIALS AND METHODS

### The Study Area

Lagos Metropolitan area is an African megacity which is located in south-western Nigeria on the West Coast of Africa and situated within latitudes 6° 22' N and 6° 41' N and Longitudes 3° 22' E and 3° 41' E. Lagos metropolis constitutes the greater parts of the habitable portion of Lagos State. The state is bounded in the north and east by Ogun State, in the west by the Republic of Benin and the south by the Gulf of Guinea. It is 800km southwest of Abuja, the Nigeria's capital and the

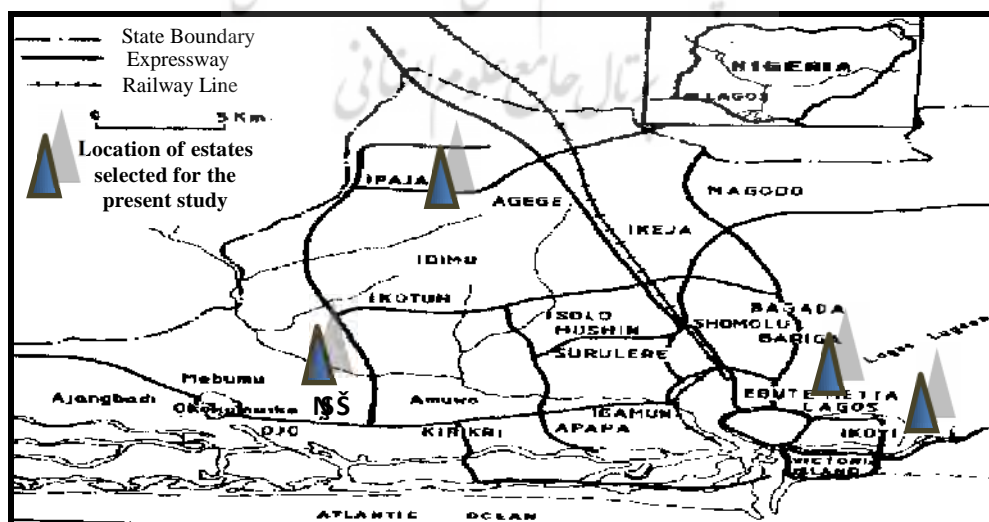


Fig.1: Map of Lagos State, Nigeria (Iweka, 2012)

smallest yet the most populated state in the country with an estimated population of 18.5 million inhabitants (Salau, 2010). Lagos State (2004) remarks that Lagos will be the third largest global city in the world by 2025, with an estimated population of 24.0 million people.

Lagos State harbours hosts 65% to 70% of the country's total industrial and commercial activities and also accounts for approximately 50% of the manufacturing concerns. The built-up area of Lagos metropolis has an average projected population density of about 20,000 people per square kilometre. The high growth rate of Lagos has tremendous consequences, especially in the area of providing adequate housing for teeming urban population. Thus government's attention on housing provision is a prerequisite for Lagos to sustain its leadership in commercial and national development.

**Case Study Research Design-** This study is essentially a case study research that incorporates aspects of evaluation analysis. The methodological issues attached to the case study are substantially based on survey research design. The survey research component provides an indication of the prevalence of the phenomenon of dwelling density among different marital status classifications within the selected cases. The adoption of case study approach in this study is considered appropriate because the research focus is a contemporary phenomenon within some real-life context (Yin, 2003). In addition, the research is interested mainly in information specific to a particular study context, the LSDPC (Illesanmi, 2005).

The single institutional context of LSDPC qualifies it to be classified as a single unit, or single case with identifiable boundaries.

According to earlier researchers, LSDPC has 40 residential estates comprising a total of 20,572 housing units (Jiboye, 2009; 2010; Iweka, 2012). Since the present study is restricted to multifamily housing units, the first step was to identify the housing estates with large numbers of multifamily housing units. In this study, a housing estate is considered to have large numbers of multifamily housing units if it contains 100 or more of such units. There are twelve estates in this category, namely: Abesan, Amuwo-Odofin, Anikantomo, Dairy Farm-Ijaiye, Iba, Ikponri, Isolo, Ojokoro, Dolphin II, Ebute-Metta, Ijaiye-Agege, and Femi Okunnu.

Four housing estates for in-depth study were purposively selected from this list. These include three low income estates and one medium income estate. The three low-income estates selected were (1) Abesan (4,272 apartment units), (2) Iba (2,388 apartment units) and (3) Dolphin II (576 apartment units). The medium-income estate chosen was Ebute-Metta (528 apartment units).

**Sampling-** The total number of housing units in the four selected estates represents the sample frame. This amounts to 7,764 comprising two-bedroom, three-bedroom and four-bedroom multifamily apartments in the low and medium income category. In all, a 7.5% sample of the housing units was chosen for this study, amounting to 582 units. Stratification and systematic techniques were applied in the identification and selection of housing unit design types available in each estate. These housing types were classified according to Number of Bedrooms. The stratification technique was also used to delineate the housing unit types according to the proportion in each estate and ensured that all population proportions were matched in the sample. The

housing units eventually chosen for detailed survey were selected using systematic random sampling technique after the first apartment was chosen at random.

The measure of crowding was constructed from responses to pre-tested questionnaire items pertaining to the number of persons and marital status of household head in each housing unit.

**Procedure for Data Analysis-** The Canadian National Occupancy Standard and the Equalized Crowding Index were used in computing what constitutes an adult-equivalent occupant. In applying these indexes, each individual who is in a marital relationship is rated as one-half. Children under one year are disregarded. Children one year of age or over, but less than eighteen years of age are counted as one-half. Household members aged eighteen years or over are counted as one. The outcome gives an equalized number of people living in an apartment (Morrison, 1994; Basavarajappa, 1998; Schuluter *et al.*, 2007; Australian Bureau of Statistics, 2008; Seeling *et al.*, 2008; Iweka *et al.*, 2009; Iweka, 2012).

## RESULTS AND DISCUSSION

The crowding intensity for each of the seven marital classifications in the various apartment types investigated in this study was determined based on the number of adult-equivalent occupants per apartment. Group measure was adopted in interpreting the intensity of crowding during habitation across marital statuses in different apartments. Thus all the occupants in different marital arrangements were grouped into three categories. These are: (a) households that harboured one to two adult-equivalent occupants; (b) households that harboured three to five adult-equivalent occupants; and (c) households that harboured six or more adult-equivalent occupants. This was the focus of the present research. The three grouped measures are represented in Table 1.

### Apartments where the Household Heads Were Married

The Table reveals that married households could be found in all apartment types investigated in this study. The Table also reveals that households containing three to five persons were found in all apartment types and were the most dominant in most of them. Type 2 (two-bedroom) at Dolphin ranked highest with 60% of the respondents among the married household heads belonging to this group. This is followed by Type 1 (two-bedroom) at Abesan 55.6%; while married households containing 3-5 adult-equivalent occupants constitute 51.5% of respondents in Type 3 (three-bedroom) at Abesan.

On the other hand, married households containing one to two adult-equivalent persons were the second most dominant in only four apartment types. These are Type 1 (two-bedroom) at Abesan 5.6%, Type 3 (three-bedroom) at Abesan 19.1%, Type 4 (three bedroom) at Iba 13.3% and Type 6 (four-bedroom) at Ebute-Metta 14.3%. Married households containing six adult-equivalent persons and above were the second most dominant in Type 2 (two-bedroom) at Dolphin, 13.2%. However, Type 5 (three-bedroom) at Dolphin gave an interesting result. In this apartment type, married households containing one to two adult-equivalent persons and those containing six adult-equivalent persons and above were equal among the respondents 12.5%.

Table 1: Grouped measures of crowding intensity for different marital arrangements

Apartment type	Marital status	1 – 2 Occupants(%)	3 – 5 Occupants(%)	6 occupants & above(%)	Total (%)
Type 1 2-bedroom Abesan	Married	5.6	55.6	-	61.1
	Widowed	-	11.1	-	11.1
	Just single	11.1	22.1	5.6	27.8
	TOTAL	16.7	77.8	5.5	100
Type 2 2-bedroom Dolphin	Married	6.7	60	13.2	79.9
	Widowed	-	6.7	6.7	13.4
	Just single	-	-	6.7	6.7
	TOTAL	6.7	66.7	26.6	100
Type 3 3-bedroom Abesan	Married	19.1	51.5	7.4	77.9
	Separated	1.5	1.5	-	2.9
	Divorced	-	1.5	-	1.5
	Widowed	1.5	5.9	-	7.4
	Single mother	2.9	1.5	-	4.4
	Just single	-	4.4	1.5	5.9
	TOTAL	25	66.2	8.8	100
Type 4 3-bedroom Iba	Married	13.3	33.3	-	46.6
	Separated	-	6.7	6.7	13.3
	Widowed	-	6.7	-	6.7
	Single father	6.7	-	-	6.7
	Just single	6.7	6.7	13.3	26.7
	TOTAL	26.7	53.3	20	100
Type 5 3-bedroom Dolphin	Married	12.5	50	12.5	75
	Divorced	-	-	4.2	4.2
	Just single	-	16.7	4.2	20.8
	TOTAL	12.5	66.7	20.8	100
Type 6 4 bedroom Ebute-Metta	Married	14.3	34.3	8.6	57.1
	Separated	-	2.8	-	2.8
	Divorced	-	2.8	-	2.8
	Widowed	2.8	2.8	-	5.7
	Single mother	-	2.8	-	2.8
	Just single	8.6	20.2	-	28.8
	TOTAL	25.7	65.7	8.6	100

The results from Table 1 also revealed that married households containing six adult-equivalent persons and above did not exist among the respondents in two apartment types. These are Type 1 (two-bedroom) at Abesan and Type 4 (three bedroom) at Iba suggesting the likelihood that these two apartment types were under-occupied. This situation was replicated in two other apartment types, namely Type 3 (three-bedroom) at Abesan 7.4% and Type 6 (four-bedroom) at Ebute-Metta, 8.7%. Household size of six or more adult-equivalent persons was the least occurring in the two apartment types.

#### Apartments where the Household Heads Were Separated

Among the respondents, household heads whose marital statuses fall under this category were not found in three apartment types (Table 1). These are the Type 1 (two-bedroom) units at Abesan Estate, the Type 2 (two-bedroom) units at Dolphin II Estate and Type 5 (three-bedroom) at Dolphin II. The data shows that persons who are separated from their spouses were more likely to be found either in three-bedroom units or four-bedroom units. None of the respondents in Dolphin Estate belong to this marital classification, both in the Type 2 (two-bedroom), and Type 5 (3-bedroom) apartments.

The situation was slightly different at Abesan Estate. In Abesan Estate, Type 1 (two-bedroom) did not harbour separated household heads among the respondents. This household type could only be found in Type 3, (3-bedroom) apartments. Generally, apartments where the household heads are separated were less likely to be found in two-bedroom units than three-bedroom and four-bedroom units. Also, persons in this marital category were more likely to be found in four-bedroom units than three-bedroom types.

In apartment types where separated household heads and married household heads were found, the levels of crowding for separated households were less than for married households. Also, unlike the married households where apartments containing three to five persons were the most dominant, the result shows that for Type 3 (three-bedroom) at Abesan, separated marital group containing one to two adult-equivalent persons and those containing three to five adult-equivalent persons were equal among the respondents 1.5%. Similarly, for Type 4 (three bedroom) at Iba, households containing three to five adult-equivalent persons and those containing six adult-equivalent persons and above were equal among the respondents 6.7%.

### **Apartments where the Household Heads Were Divorced**

The study reveals that household heads that are divorced were only found among residents of three apartment types (Table 1). These are: Type 3 (three-bedroom) at Abesan, Type 5 (three-bedroom) at Dolphin II, and Type 6 (four-bedroom) at Ebute-Metta. The close link between “Separated” and “Divorced” was revealed in this research, as both household types were not found among respondents living in two-bedroom apartments. This shows that divorced households are more likely to occupy three-bedroom and four-bedroom housing units.

Table 1 shows that divorced household heads living in apartments containing six adult-equivalent occupants and above were only found in Type 5 (three-bedroom) at Dolphin II and constitute only 4.2% of all the respondents in the apartment type.

### **Apartments where Household Heads Are Widowed**

In this study, widows(ers) were not found among the respondents in Type 5 (three-bedroom) apartments in Dolphin II Estate. All the other five building types investigated in this study harboured widows(ers). Table 1 shows that widowed household heads living in apartments containing one to two adult-equivalent occupants were only found in Type 3 (three-bedroom) at Abesan. This widowed household category constitutes only 1.5% of all the respondents in this apartment type. Similarly, widowed household heads living in apartments containing six adult-equivalent occupants and above were only found in Type 2 (two-bedroom), and constitute only 6.7% of all the respondents in the apartment type. On the other hand, respondents from widowed households containing three to five persons were found in all the five apartment types and were the most dominant in all of them. It is however noteworthy that even this dominant group, did not constitute up to 7.0% in any of the apartment types.

### **Apartments where Household Heads Are Single Mothers**

The cultural reluctance in accepting the reality of “single mother” household head was reflected in the paucity of respondents in this category. Only respondents in two dwelling unit types indicated that they belong to “Single Mother” classification. The apartments are Type 3 (three-bedroom) at Abesan and Type 6, (four-bedroom) at Ebute-Metta. This tends to imply that single mother heads of household are rarely found among residents of two bedroom apartments. This is contrary to expectation, given the largely held view that this household type is characterized by fewer numbers of occupants. One possible explanation is that the population density in neighbourhoods where two-bedroom apartments are located is usually high. Moreover single mothers probably avoid clustering among these people to avoid stigmatization. Single mother household heads living in apartments containing one to two adult-equivalent occupants were only found in Type 3 (three-bedroom) at Abesan. This single mother household category constitutes only 2.9% of all the respondents in this apartment type. Respondents from single mother households containing six adult-equivalent occupants and above were not found in any of the apartment types investigated in this study. The situation is different for households containing three to five persons. These were found in Type 3 (three-bedroom) at Abesan and Type 6,

(four-bedroom) at Ebute-Metta and represent 1.5% and 2.8% of all the respondents in these apartment types respectively.

### **Apartments where Household Heads Are Single Fathers**

This study reveals the reality of socio-cultural inhibitions that tend to discourage residents in the study area from identifying themselves as single fathers. Of the six apartment types covered in this research, respondents who indicated that they are single fathers were found only in Type 4, (three-bedroom) at Iba estate. In the study area, single fatherhood is regarded as an aberration and attracts stigmatization. It is likely that this reason accounted for the low number of respondents who expressed that they belong to this category. Nevertheless, the data points out that single father household type is an emerging identity in LSDPC’s multifamily apartments.

### **Apartments where Household Heads Are Just Single**

Table 1 shows that persons who belong to the marital status “just single” were spread among the six apartment types investigated in this research. However, households in this marital category containing one to two occupants were found only among respondents from three apartment types. These are Type 1 (two-bedroom) units at Abesan Estate, Type 4 (three bedroom) at Iba and Type 6, (four-bedroom) at Ebute-Metta. Also in these apartment types the one to two occupants group are the second most dominant among “just singles”. Table 1 also reveals that households containing three to five persons were found in five apartment types and were the most dominant in four of them. These are Type 1 (two-bedroom) at Abesan (22.1%), Type 3 (three-bedroom) at Abesan (4.4%), Type 5 (three-bedroom) at Dolphin II (16.7%) and Type 6, (four-bedroom) at Ebute-Metta (20.2%). Apartments containing six adult-equivalent occupants and above are spread across four apartment types namely Type 1 (two-bedroom) at Abesan (5.6%), Type 3 (three-bedroom) at Abesan (1.5%), Type 4 (three bedroom) at Iba (13.3%) and Type 5 (three-bedroom) at Dolphin II (4.2%). This group remains the least dominant even though the spread is more than apartments containing one to two occupants. The high number of occupants in the just single category compares with the results in married households. This tends to suggest that the practice of extended family is still favoured among residents of the study area.

## **CONCLUSION**

This study applied the traditional measures of household occupancy to investigate the crowding experiences among households of different marital classifications in LSDPC’s multifamily apartments in Lagos, Nigeria. The focus was on the capacity of an apartment’s internal spaces to meet the existential needs of the household based on the number of persons in the household. Households containing three to five persons were the most dominant in all apartment types. Households that contain six or more persons were very few. The result revealed a close link between Separated and Divorced household types. Both household types were not found among respondents occupying two-bedroom apartments. This tends to suggest that divorced households are more likely to occupy three-bedroom and four-bedroom housing units. Similarly, single mother heads of household were rarely found among residents of two bedroom

apartments. The penchant for larger and more exclusive apartments among these household types can be explained in two ways (a) the avoidance of socio-cultural inhibitions and stigmatization; (b) the practice of extended family relationships.

This study further revealed that single father household types were very few suggesting that residents in the study area are reluctant to identify to themselves as single fathers, due to socio-cultural inhibitions. Nevertheless, the study points out that single father household type is an emerging identity in LSDPC's multifamily apartments.

The study equally shows that the number of occupants in the just single and married categories were high compared to others. Generally, apartments where the household heads are separated were less likely to be found in two-bedroom units than three-bedroom and four-bedroom units. Also, persons in this marital category were more likely to be found in four-bedroom units than three-bedroom types.

The results from this research are significant for policies regarding occupancy, crowding and design of public housing multifamily apartments in Nigeria. In particular, LSDPC as an agency responsible for large mass housing developments in Lagos megacity might find the results of this research interesting.

## ENDNOTES

1- Lagos State Development and Property Corporation

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