

Effect of Household Head's Gender on Crowding in Government-Built Multifamily Apartments in Lagos

Anthony C. O. Iweka and Anthony K. Adebayo

Department of Architecture, Faculty of Environmental Sciences,
University of Lagos, Akoka-Yaba, Lagos, Nigeria
tonyiweka@yahoo.com

Abstract

The inclusion of gender perspectives is highlighted globally by planners, architects and policy makers in tackling the built-environment developmental issues. Living arrangements in multifamily apartments and exposure to housing stress are influenced by household demographic factors such as gender. Access to reliable data on household crowding which recognizes and understands gender-specific patterns is cherished by governments and policy makers across the globe. Exploring the gender differences in the experiences of crowding is one of the areas that has not attracted adequate research attention in multifamily apartments owned and operated by the Lagos State Development and Property Corporation (LSDPC) in Lagos, Nigeria. This study aimed to assess the differing degrees of crowding experience in households headed by men and households headed by women. A case study of four large housing estates belonging to LSDPC was employed. The study sample frame was 7,764 out of which a sample of 7.5% (582) was randomly selected using stratification and systematic techniques. A pre-test questionnaire was used to collect relevant gender disaggregated data from household heads. Descriptive statistical analyses were used to compare the crowding experiences faced by households headed by males and females in the study area. The results showed that in all the six apartment types investigated across four locations, the gender of household head had no significant effect on apartment crowding. It is therefore recommended that planning, design and policy inclination towards crowding in LSDPC's multifamily apartments should be based on gender neutrality.

Keywords: crowding, gender, household head, multifamily apartment

Introduction

The question of gender differences in housing occupancy and housing utilization is a complex, controversial and contentious one, notwithstanding that gender is widely acknowledged as a developmental issue. Although reliable data on household crowding is essential to analysis and housing issues, the problem of how this crowding phenomenon is expressed in male-headed and female-headed households is an under-researched question. Ngaiza (2010) acknowledges that research on urban planning and housing has for the most part failed to incorporate gender analysis of apartment crowding.

In Nigeria the matching of household head's gender with crowding levels in public housing multifamily apartments has not attracted adequate research attention among scholars of housing demography despite the fact that demographic characteristics and features are frequently used to explain housing behaviour. All these have implications for multifamily housing design. Hence it is important to apply gender-based analysis of crowding experiences in existing apartments to determine whether households headed by women have higher risks of crowding than households headed by men. Presently, housing policies and programmes in Nigeria and many other countries are described as gender-neutral. However,

traditional ideas about gender, masculinity and femininity still create an imbalance in the housing field.

Gender as a construct refers to economic and socio-cultural attributes, values and opportunities associated with being a man or a woman (UN-Habitat, 2008). Researches by Dimitri (2008) and UNFPA (2014) have attempted to clarify the difference between gender and sex. They contend that sex is defined by the circumstances of birth which classify people as male or female based on biological and physiological characteristics. In this sense, sex characteristics are fairly constant and universal whereas gendered ideas could vary across locations and across times.

Focusing on gender (the socio-cultural construct) rather than sex (the biological marker) reveals that access to housing is not only gendered but varies according to factors such as whether or not household includes children and other occupants. Therefore the recognition of gender diversity in household living experiences is essential in terms of housing delivery, urban planning and governance. Ignoring gender implies that assumptions about the household structure may end up being incorrect, especially in urban locations that have a growing preponderance of female-headed households.

Thus, manifestation of gender diversity in the area of crowding poses a big challenge for city planners and policy makers, and constitutes a research gap. This gap appears evident in Lagos, Nigeria, where an empirical study of gender-segregated objective crowding experiences of households is rare. In Lagos state, most of the multifamily apartments developed by Lagos State Development and Property Corporation (LSDPC) were built with male-dominance mentality. Further, LSDPC apparently saw housing problems in terms of the demand for family housing and so did not emphasize the need to deliver housing that is suitable for different genders.

LSDPC needs to be clear about the volumes of housing suitable for different genders. One way to achieve this is to investigate how living arrangements for different genders impact on household crowding. The question is whether or not there is a disparity in objective crowding levels, based on the gender of the household head. Knowledge of this can elicit new approaches that could change LSDPC's housing delivery models. The outcome could provide supporting information to justify whether or not there will be a need for larger range of innovative housing options or models in LSDPC.

Literature Review

Historically, most traditional gender ideologies and cultural norms legitimize households and housing systems in which men are assigned dominant roles and women subordinate roles (Tester, 2007; Ngaiza, 2010; Bammeke, 2010). Based on this historical legacy and cultural prescriptions, household headship is associated with men to the extent that some women who, in fact, head households may not name themselves as such. Gender scholars have demonstrated that the stereotypical roles and responsibilities assigned to men and women create disadvantages in the housing arena (Tester, 2007).

Internationally recognized definitions and concepts have been developed to respond to these biased orientations. Accordingly, gender roles are now shifting in the direction of more flexibility that do not rigidly correspond to any specific form of gender expectations.

Thus, the household head is now recognized as the person within the household who retains the ultimate authority for decision-making and allocation of resources about the affairs of the apartment (Ngaiza, 2010; Blank, 2013). Such authority covers a number of variables like the person who owns the apartment, or who supports the people that reside in it.

Shift towards gender balance in housing experiences in Nigeria

Scholars have been unequivocal about the need and necessity to accommodate the differences between men and women in planning at the level of the household (Moser, 1987; Ibem & Azuh, 2013; Asiyambola, 2013; Agbola, 1990). Previous tilt towards male superiority and dominance in Nigeria's housing sector is gradually changing in line with international definitions and concepts. This shift found expression in the 1991 census of the Federal Republic of Nigeria which defined a household in terms of co-residence (common living arrangements for multi-person households), common cooking arrangements and the recognition of one person as the household head. This unbiased definition of household head makes it imperative to empirically investigate the interlink in the housing needs, housing decisions and housing experiences between genders. In Nigeria, one of the noticeable constraints is the dearth of empirical evidence of women's actual experience of housing, notwithstanding the fact that women constitute about 49% of Nigeria's population (Federal Republic of Nigeria, 2007; Olotua & Ajayi, 2008). It has also been revealed that female-headed households in Nigeria's urban areas constitute 19% (Bammeke, 2010; NPC (Nig.) 2000). Only a few gender-based studies are available in Nigeria and these mainly address the issues concerning women as a disadvantaged group in accessing urban housing and social services, (Agboola, 1990; Asiyambola & Filani, 2007; Ibem & Azuh, 2013).

In Lagos, government-built housing apartments have been in existence for several decades. The largest part of available units are owned and operated (or leased) by LSDPC without a clear evidence of gender-based experiences in the area of objective crowding. Such a focus on gender-induced demographic changes could influence housing consumption in

such a way as to change LSDPS's housing delivery models.

Methodology

This study was designed to be comparative, involving male-headed households and female-headed households in government-built multifamily apartments, using LSDPC as a case study. The aim was to explore whether gender roles would predict objective crowding levels in LSDPC's multifamily apartments. Thus the approach was to compare the crowding experiences faced by households headed by males and females. There is no one international standard definition of crowding. However, in this study, the issue in focus is the number of persons in the apartment, based on objective statistical measures of density and does not incorporate people's perception of crowding (Iweka, 2013). Hence, household crowding was summarized using a continuous variable called people-per-room, calculated by the number of residents divided by number of rooms.

The "Adult-equivalent" concept was applied as a key crowding measure using combinations of criteria such as age, sex and relationships, to follow the approved number of people per room. This measurement provided an indication of room occupancy in LSDPC's multifamily apartments based on household head's gender. This approach has been used in Australia, Canada and the United Kingdom. The Canadian National Occupancy Standard (CNOS) and the Equalized Crowding Index (ECI) were applied in determining what constitutes an adult-equivalent occupant. In applying these indexes, each individual who is in a marital relationship was rated as one-half, as well as children aged less than 10 years. Children under one year were not taken account of, while children of one year old and above, but less than 18 years of age were counted as one-half. Other apartment occupants who are 18 years and above were counted as one. The outcome gives the equalized number of people living in the apartment. (Basavarajappa, 1998; Schuluter, Carter & Kokaua, 2007;

Australian Bureau of Statistics 2008; Iweka, Adebayo & Igwe, 2009; Iweka, 2012).

In the current study, it was assumed that there is no difference between ownership and headship. Also joint headships and contested household headship situations were assumed to be non-existent. Household size was used as a proxy to statistically measure crowding levels in LSDPS's multifamily apartments.

Research design

The case study approach was applied in this research to provide in depth details for objective assessment of crowding levels differentiated by household head's gender in LSDPC's multifamily apartments. A survey research component provided an indication of the prevalence of over-crowding or under-crowding in the selected multifamily apartments.

Out of the forty residential public housing estates belonging to LSDPC, there are twelve that contain multifamily apartments comprising nine in the low income category and three in the medium income category (Iweka, 2012). The estates in the low income category are Abesan, Amuwo Odofin, Anikantamo, Dairy Farm/Ijaiye, Dolphin II, Iba, Iponri, Isolo and Ojokoro. The medium income estates are Ebute-Metta, Femi Okunnu and Ijaiye. The total number of apartments in these twelve estates is 17,679, and this constituted the study population. For this study, three housing estates in the low income category (Abesan, Dolphin II and Iba) and one estate in the medium income category (Ebute-Metta) were purposively selected.

Sample selection and data collection

The study sample frame was 7,764 multifamily apartments classified into two-bedrooms, three-bedrooms and four-bedrooms. These apartments are located in the four estates purposively chosen for in-

depth investigation of effect of household heads' gender on apartment crowding. Of this figure, 7.5% was selected through stratified and systematic random sampling method. Consequently, 582 apartments consisting of 135, two-bedrooms, 447 three bedrooms and 40 four-bedroom were chosen for questionnaire administration. Out of the 582 questionnaires distributed to household heads who were the respondents only 184 (that is, 32% effective response rate) were subsequently retrieved for data analysis. Although the number of responses seemed low for such a study, nonetheless, considering the time and resource constraints, low public awareness and education as well as the prevailing situation in which people were reluctant to share information, the response rate was considered sufficient to interpret this research objective. Five out of all the returned questionnaires were defective and could not be used for further analysis. The data were analyzed using descriptive statistics.

Findings

The crowding levels, based on the gender of household head in the different categories of LSDPC's multifamily apartments investigated in this study were computed using the adult-equivalent model of occupants per apartment.

Group measure was applied to interpret the crowding level experienced during habitation by the male-headed households and female-headed households. Three groups were subsequently employed. 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. The results from these three groups are represented in Table 1.

Table 1 Grouped Measures of Crowding Levels, Based on Gender in Different Apartment Types

Apartment type	Gender	1 – 2 Occupants (%)	3 – 5 Occupants (%)	6 occupants & above (%)	Total (%)
Type 1 2-bedroom Abesan	Male-headed household	16.6	50.0	5.6	72.2
	Female-headed	-	27.8	-	27.8
	TOTAL	16.6	77.8	5.6	100
Type 2 2-bedroom Dolphin	Male-headed household	6.7	60.0	26.7	93.3
	Female-headed	-	6.7	-	6.7
	TOTAL	6.7	66.7	26.6	100
Type 3 3-bedroom Abesan	Male-headed household	16.2	51.5	5.9	73.5
	Female-headed	8.8	14.7	2.9	26.5
	TOTAL	25	66.2	8.8	100
Type 4 3-bedroom Iba	Male-headed household	28.7	50	7.1	85.8
	Female-headed	-	7.1	7.1	14.2
	TOTAL	28.7	57.1	14.2	100
Type 5 3-bedroom Dolphin	Male-headed household	13.0	65.3	21.7	100
	Female-headed	-	-	-	-
	TOTAL	13.0	65.3	21.7	100
Type 6 4 bedroom Ebute-Metta	Male-headed household	21.2	48.5	6.1	75.8
	Female-headed	3.0	21.2	-	24.2
	TOTAL	24.2	69.7	6.1	100

Apartments where the crowding level is one to two occupants

Female-headed households were very few among apartments containing one to two occupants. Among the six apartment types investigated, female-headed households could not be found in four types. These are Type 1 (two-bedroom) at Abesan, Type 2 (two-bedroom) at Dolphin, Type 4 (three-bedroom) at Iba and Type 5 (three-bedroom) at Dolphin. Thus the two apartment types harbouring one to two occupants are Type 3 (three-bedroom) at Abesan (8.8%) and Type 6 (four-bedroom) at Ebute-Metta (3.0%).

On the contrary, male-headed households harbouring one to two occupants were found in all the six apartment types investigated, ranging from 6.7% to 28.7%. Overall, the results revealed that apartments where the crowding level was one to two occupants constitute the second most dominant group after the group containing three to five persons group.

Apartments where the crowding level is three to five occupants

Table 1 reveals that male-headed households containing three to five adult equivalent persons were found in all apartment types and were most dominant in all of them. Type 5 (three-bedroom) at Dolphin ranked highest with 65.3% of the respondents belonging to this group of three to five occupants in male-headed households. On the

Other hand, Type 6 (four-bedroom) at Ebute-Metta ranked lowest for male-headed households, with 48.5% of the respondents belonging to this group of three to five occupants.

In the case of female-headed households, this group of three to five occupants were also the most dominant, though to a lesser degree than the results obtained from male-headed households. There were no female-headed households among the respondents in Type 5 (three-bedroom) at Dolphin. In the other four types of apartment, households headed by females and

harbouring three to five occupants range from 6.7% to 27.8%. It was also observed that the highest record of 27.8% for female-headed households was far less than the lowest record of 48.5% for male-headed households.

Apartments where the crowding level is six or more occupants

The results for female-headed households containing six or more persons were very similar to, though less dominant than female-headed apartments containing one to two occupants. Female headed households did not exist in four apartment types namely Type 1 (2-bedroom) at Abesan, Type 2 (2-bedroom) at Dolphin, Type 5 (three-bedroom) at Dolphin, and Type 6 (four-bedroom) at Ebute-Metta. Even in the two apartment types where female-headed households existed, the figure was significantly low (2.9% to 7.1%).

The situation with apartments containing six or more occupants for male-headed households was not very different from female-headed households even though the male-headed households can be found in all the six apartment types. The crowding level ranged from 5.6% in Type 1 (2-bedroom) at Abesan to 26.7% in Type 2 (2-bedroom) at Dolphin.

Statistical test of gender effect on crowding levels in the six apartments investigated.

A chi-square test was carried out to establish the effect of gender on crowding levels in the six apartments investigated. The results are shown in Table 2. The statistical level of significance for acceptance or rejection was set at 95% confidence interval. Thus P-Value (that is, T tabulated) represents the effect of gender on crowding levels. The decision rule is that at the same degree of freedom, if the P-Value is less than 0.05, the effect of gender on crowding levels is classified as "significant". This implies that at the same degree of freedom, if the P-Value is higher than 0.05, the effect of gender on crowding levels is classified as "not significant". The inference from Table 2 shows that in all the six apartment types investigated, the gender of household head had no significant effect on crowding levels, at 95% confidence level. Therefore, whether the household head is a male or female is not likely to be relevant in formulating an occupancy policy for LSDPC's multifamily apartments in the future.

Table 2 Effect of Gender on Crowding Levels

Apartment type	Chi-square Value χ^2	D.F.	P-Value (T-tabulated)	Remarks
Type one (two-bedroom), Abesan	1.978	2	0.372	Gender has no significant effect on crowding level in all apartment types
Type two (two-bedroom), Dolphin	0.536	2	0.765	
Type three (three-bedroom),	1.242	2	0.537	
Type four (three-bedroom), Iba	2.771	2	0.250	
Type five (three-bedroom),	CONSTANT			
Type six (four-bedroom), Ebute-	1.721	2	0.423	

Conclusion and Recommendation

This research aimed to access whether gender-based factors affect crowding in LSDPC's multifamily apartments in Lagos, to an extent that it could influence the agency's disposition to deliver multifamily apartments that are suitable for different genders to occupy and utilize.

The results showed that for female-headed households, apartments containing 3-5 occupants constitute the most dominant. This result was replicated in all the male-headed households investigated, where it was found that multi-family apartments harbouring 3-5 occupants were most dominant. The trend is the same as the case of 1-2 persons crowding levels and in the

case of six persons or more crowding levels. Since the trend is the same for each of the three group measures adopted in this research, it suggests that the effect of gender on crowding levels was negligible.

Furthermore the inference from statistical validation confirms that all the six apartment types, the gender of household head had no significant effect on apartment crowding. This finding tends to diffuse the potential conflict of interests on the effects of crowding on men's and women's housing experience in the study area. It can thus be argued that the outcome of this research confirms that previously held assumptions regarding male and female gender differences in housing experience do not extend to multifamily apartment crowding in LSPDC's estates.

Nevertheless, the study found that in each of the three categories of crowding level, female-headed households were scanty and figures obtained were proportionally very low compared to male headed households.

It is hereby recommended that planning, design and policy inclination towards crowding in LSPDC's multifamily apartments should be based on gender neutrality.

References

- Agbola, T. (1990). The nature of women's involvement in housing development: A survey of the literature. *African Urban Quarterly*, 5(3&4), 178-185.
- Asiyanbola, R. A. (2013). Urban housing experience and gender: An empirical study in Ibadan, Nigeria. *Journal of Geography and Geology*, 5(1), 45-57.
- Asiyanbola, R. A. & Filani, M. O. (2007). Perception and involvement of women in housing development in Nigeria, *Journal of Environment and Culture*, 4(2), 1-22.
- Australian Bureau of Statistics, (2008). *Housing utilization*. Year Book Australia, 2008.
- Bammeke, F. (2010). Gender, household headship and children's educational performance in Nigeria: Debunking the myth of poor performance in female-headed households. *African Population Studies*, 24(1&2), 26-41.
- Basavarajappa, K. G. (1998). *Living arrangements and residential overcrowding: The situation of older immigrants in Canada 1991*. The Analytical Studies Branch Research paper Series No. 115, Statistics Canada, September.
- Blank, S. (2013). An historical and contemporary overview of gendered Caribbean *Relations Journal of Arts and Humanities (JAH)*, 2 (4-May).
- Dimitri, S. (2008). Addressing gender issues through the production and use of gender-sensitive information. *The African statistical Journal* 7, 101-124.
- Federal Republic of Nigeria, (2007). *The Nigerian Statistical fact Sheets on Economic and Social Development*. National Bureau of Statistics, Abuja.
- Ibem, E. O. & Azuh D. E. (2013). Satisfaction with public housing among urban women in Ogun State, Nigeria. *Covenant Journal of Research in the Built Environment (CJRBE)* 1(2), 67-90.
- Iweka, A. C. O. (2013). Marital status and crowding intensity: The case of multifamily apartments in Lagos, Nigeria. *International Journal of Architecture and Urban Development* 3(4), 35 - 40.
- Iweka, A. C. O. (2012). *A post-occupancy evaluation of dwelling density in multifamily apartments in public housing estates in Lagos* (Unpublished doctoral dissertation). University of Lagos.
- Iweka, A. C. O., Adebayo, A. K., & Igwe, J. M. (2009). *Millennium development goals and slum alleviation in developing nations: The challenge of sufficient living area for households*. Paper presented at the International Conference on Millennium Development Goals and the Built Environment, Obafemi Awolowo University, Ile-Ife.
- Moser, C. (1987). Women, human settlements and housing: a conceptual framework for analysis and policy-making. In C. Moser & L. Peake,

- (eds). *Women, human settlement, and housing*. London. Tavistock Publications.
- National Population Commission (Nigeria), 2000. *Nigeria Demographic and Health Survey 1999*.
- Ngaiza, M. K. (2010). Challenges of gender mainstreaming with a male perspective: experiences from Tanzania. In: M. Tadesse and A. Daniel (eds.) *Gender mainstreaming experiences from Eastern and Southern Africa*. Addis Ababa: Organization for Social Science Research in Eastern and Southern Africa (OSSREA) - Eastern Books Collective
- Olotua, A. O. & Ajayi, M. A. (2008). Repositioning women in housing development in Nigeria. *Indian Journal of Gender Studies*, 15(1), 101-113.
- Schluter, P., Carter, S., & Kokaua, J. (2007). Indices and perception of crowding in pacific households domicile within Auckland New Zealand: Findings from the pacific islands families study. *The New Zealand Medical Journal*, 120(1248), 1-12.
- Tester, G. M. (2007). *The relational and status foundation of gender discrimination in housing*. Doctoral Dissertation. The Graduate School of Ohio State University.
- UN-HABITAT, (2008). *State of the world's cities 2008/2009 harmonious cities*. London: Earthscan.
- United Nations Population Fund (UNFPA), (2014). *Methodological guidelines for the gender analysis of national populations and housing census data*. Technical Division of the United Nations Population Fund (UNFPA)