

User Satisfaction with Multi-storey Residential Buildings in Ibadan Metropolis, Nigeria

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Abstract

Multi-storey housing is growing steadily in several cities in the developed and developing countries. Nigerian cities are gradually embracing multi-storey buildings as a way to cope with urbanization and manage the pressure on lands in these populous cities. However, this has resulted in lower levels of housing satisfaction. This paper analyzed socioeconomic profile of users of multi-storey housing in Ibadan, Nigeria and their housing satisfaction. It examined 50 households in the city; data were obtained through structured questionnaire and physical observations. Data were analyzed using Single-Factor Descriptive Analysis, Mean Satisfaction Scoring (MSS) and Categorical Regression Analysis. The findings showed that respondents were generally satisfied with their housing environment. It showed a positive significant relationship ($p=0.000$) between residents' housing satisfaction and their socioeconomic characteristics. The study also found that most of the independent variables did not significantly influence housing satisfaction contrary to the findings of previous studies. The study concluded that socioeconomic characteristics of residents are jointly important determinants of housing satisfaction in Ibadan, Nigeria and should be considered in the design and planning of multi-storey housing.

Keywords: Housing Satisfaction, Multi-Storey, Residents, Socio-Economic Characteristics

INTRODUCTION

Multi-storey residential buildings have been used in urban centres largely to mitigate the problem of scarcity of land for housing purposes (Asfour, 2011). This approach to residential development has been on the increase in several urban centres in the developed and developing cities, due to increased rate of urbanization. This is because urbanization puts pressure on the available lands especially in densely populated cities. Multi-storey residential buildings serve a huge number of families who cannot afford to buy lands for their own housing (Ammar, Ali & Yusof, 2012). They however, decrease the right and ability of every user to have control over every space in their dwellings unlike in single detached housing (Ammar, Ali & Yusof, 2012). This usually results in conflicts amongst the housing users since most of the spaces are shared spaces. Greater numbers of floors increase the housing density and this would increase the likelihood of conflicts. In addition, Al-Zubedi, Nor'Aini and Nazirah (2010) also showed that with multi-storey housing comes greater exposure to heavy usage, wear-and-tear, and more need for maintenance.

Urbanization is a common phenomenon in Nigeria and the housing deficit in the country is alarming. It has increased from 16 million housing units in 2013 (World Bank, 2013) to 18 million in 2019 (Leadership Newspaper, 2019). Thus, certain cities in Nigeria have seen the gradual

emergence of multi-storey housing, one of which is Ibadan, the capital city of Oyo State in Southwest Nigeria. Ibadan is one of the most densely populated cities in Nigeria (Federal Republic of Nigeria, 2009) and it is not surprising that multi-storey houses have slowly began to emerge in the city. In addition, multi-storey residential buildings present certain issues to the users on its efficiency, effectiveness and satisfaction of the occupants. Some of these issues are determined by many ranges of factors, many of which will be identified and considered as regards the residential satisfaction of occupants of selected multi-storey residential buildings in Ibadan. Multi-storey houses in this study refer to buildings that are of four or more levels; therefore, it does not include buildings of three levels and below.

Residential satisfaction has been defined in several ways by different researchers. Ibem, Opoko, Adeboye and Amole (2013) defined it as a gauge of the difference between the users' actual and expected performance of their residential spaces in meeting their housing needs and expectation from the users' perspective during or after the consumption experience. According to Mohit, Ibrahim and Rashid (2010) it is the feeling of individual pleasure achieved when a residential environment meets expected residential needs. Residential satisfaction in this study is a criterion for determining the extent that the residents perceive that their housing needs have been met in their residential environment.

Assessment of residential satisfaction is frequently used as an ad-hoc evaluative measure for judging the failure or success of housing developments (Djebuarni and Al-Abed, 2000). Achieving housing satisfaction can lead to an improvement in inhabitants' quality of life (Isa and Jusan, 2012). Satisfaction towards the housing conditions means no complaints are made since the housing units fulfills the needs and aspirations of the users (Abdul-Ghani, 2008). Satisfaction with the overall housing environment indicates quality of life as it conforms to their needs and expectations (Waziri, Yusof and Salleh, 2013). Residential satisfaction represents a very wide range of factors, which must be taken into account and consequently incorporated in any design of living environment (Joklova, 2011).

Several factors such as age, gender, marital status, education, income level, employment status, tenure status, household size, length of stay, and so on have been determined in numerous studies to influence residential satisfaction especially in low-rise residences in Nigeria and other countries (Amole, 2009; Ibem and Amole, 2013; Zumbro, 2014; Huang, Du & Yu, 2015; Fakere, 2018). However, these studies have focused mainly on low-rise building and there are indications that since multi-storey housing presents different housing environments, the results there might be different. Therefore, this study attempts to fill this gap in literature.

Thus, the purpose of this study is to investigate users' satisfaction with multi-storey housing in Ibadan, southwest Nigeria as well as its relationship with socioeconomic characteristics of the residents. To achieve this aim, this study examined the socioeconomic characteristics of the residents, identified their satisfaction levels with several aspects of their residences and analysed the relationship between both sets of variables. The findings will assist policy makers, building professionals and developers in making the appropriate decisions in the design and development of multi-storey housing in the city and other similar cities.

METHODOLOGY

The study relied on data collected through questionnaire and physical observations. The questionnaire was designed to collect and analyze quantitative data on the attributes of the respondents as well as their levels of satisfaction with their residences. It was used to collect data on the socioeconomic and demographic characteristics of the respondents and their satisfaction with several attributes of the house. Residential satisfaction were defined in the following ways: very dissatisfied (1), dissatisfied (2), neutral (3), satisfied (4), and very satisfied (5). The respondents selected the options that correspond with their level of satisfaction with the several attributes of the house. Using Weighted Mean, the Mean Satisfaction Scores were generated; that is, instead of each data point contributing equally to the final mean, some data points contribute more "weights" than others do (Theme Horse, 2016). The Mean Satisfaction Scores were used to rank the attributes of satisfaction with housing. The physical observations were done to complement the data collected through the questionnaire through reconnaissance survey, in order to identify and observe the buildings to be studied as well as the characteristics of the neighbourhoods where the buildings are located.

This study used purposive sampling technique based on the numbers of floors of the houses (four floors and above). There were few houses in the study area that meets the criteria of high-rise buildings in the study area. Therefore, eight buildings were identified in five areas and selected for the study. These buildings were located in the following areas: Omotara Street at Agbowo (two buildings); Isopako Street at Bodija (one building); Omolewa street area (one building); Yemetu barracks area (two buildings); and Oluyole Estate (two buildings). The housing units identified at Omotara Street was 16, 8 for Iso-Pako Area, 10 for Omolewa Street, 16 for Yemetu Barracks Area and 10 for Oluyole Estate. This makes it 60 housing units in general in the study areas. A census was used in the study and 50 copies of the questionnaire were retrieved, which represents 83.3 percentage return and was deemed to be sufficient for the study.

Description of Study Area

In carrying out this study, five areas of Ibadan were identified to have multi-storey that were suitable for the scope of the study buildings as shown in Figure 1. These areas include: a) Omotara street, Agbowo, b) Isopako, Bodija, c) Omolewa street, d) Yemetu barracks, e) Oluyole Estate.

Location One: Omotara Street, Agbowo Ibadan

Omotara Street, Agbowo in Ibadan is a residential area with varying class of people, but mostly low-income earners live in the area (Plate 1a). Two multi-storey houses were identified on the street, each having four floors, as they are the tallest houses in the area. Each building has eight housing units and was occupied by both single and married persons. The low state of living is connoted by the untarred road, poor clusters of building, lack of good drainage system and refuse dumping system. Plate 1 shows a view of the building from across the street.

Location Two: Omolewa Street, Ibadan

Omolewa Street, named after the popular Omolewa nursery and primary school in Ibadan is a residential area with average class of people mostly living in the area. One building was identified for study in the area, and it has ten occupied housing units and four floors, which is the tallest house in the area. Just like the building at Iso Pako, this building was also converted from a hotel

apartment. Both were the tallest houses in the area and there is provision for parking and outdoor areas. The buildings were occupied by both single and married persons.

Location Five: Oluyole Estate, Ibadan

Oluyole Estate is an estate located in the Oluyole area of Ibadan (Plate 1e). It is also an industrial and commercial district occupied by mainly the middle to upper class. Two buildings were identified in the area, and each had the four levels and 10 occupied housing units. They were purpose-built residential apartments and the tallest houses in the area; and there is provision for parking and outdoor areas. The buildings were occupied by both single and married persons.



Plate 1: Sample buildings at various locations: a) Omotara Street, b) Omolewa Street, c) Bodija, d & e) Yemetu barracks

RESULTS AND DISCUSSION

Socioeconomic and Demographic Characteristics of the Respondents

For the socioeconomic characteristics of the respondents, a higher percentage of the respondents (62%) were male, while 38% were female. Most of the respondents (72%) were single, 20% of them were married, while 8% were divorced. Most of the respondents (76%) were between the ages of 18 and 33 years, while the rest were above 33 years of age. This shows that the proportion of youths living in these multi-storey housing is very high. Most of the respondents (91.1%) were graduates of a tertiary institution, while the rest were ordinary level certificate holders. None of them were educated to lower than the secondary school level.

A proportion of 12% of the respondents were government employee, 28% of them were employees of private organizations, 46% of them were self-employed, while 14% were unemployed. Most of the respondents (60%) earn less than ₦41,000 monthly, 28% earn between ₦41,000 - ₦81,999 monthly, 6% of them earn between ₦82,000- ₦122,999, while 4% of them earn between ₦123,000 and ₦163,000. Only 2% of the respondents above ₦163,000.

A proportion of 92% of the respondents are renters, 6% of them are owner occupiers, while 2% were occupy the houses for free. The free occupiers were mainly respondents that were housed by the company or organization that employed them. A proportion of 48% of the respondents have stayed in their apartments for less than a year, 48% of them also have lived there for between 1 and 5 years, while 4% have lived there for over 5 years. The household size of 16% of the respondents 1 person, 48% of them have a household size of 2-5 persons, 14% of them 6-10 persons living in their apartments, while 10% of them have more than 10 persons living in their apartments. A proportion of 84% of the respondents were of Yoruba origin, 6% of them respondents are of Hausa/Fulani origin, while 10% are from other tribes in the country. None of the respondents were foreigners from another country.

Levels of Satisfaction with the Housing

For the satisfaction variables used in the study, the ranking was done in descending order based on mean ranking for each variable. The highest mean satisfaction score (MSS) was for quality of floor finishes and is 4.56; this is followed by the sizes of doors with an MSS of 4.12. This shows that the respondents were mostly satisfied with quality of the floor finishes in their apartments more than other variables in the study. The MSS for sizes of living room is 4.08, MSS for the quality of natural lighting in toilets and bathrooms is 4.06, while the MSS for sizes of the bedrooms was 4.00. The variable with the lowest MSS in the study was space for laundry with MSS of 3.08. This shows that the respondents were least satisfied with the spaces available for their laundry in their apartment. The spaces they require to do their laundry was very important to them; however, the apartments do not provide them with adequate satisfaction to do it compared to the other variables of the study.

Generally, the satisfaction levels in this study seems to be similar to other forms of housing as revealed in previous studies (Mohit, Ibrahim & Rashid, 2010; Mohit & Azim, 2012; Fakere, Arayela & Folorunso, 2017). The other variables with lower MSS were protection against insects, size of storage spaces, number of parking spaces, and quality of sanitary/plumbing fittings.

Socioeconomic Characteristics and Housing Satisfaction

The research also investigated the effects of socioeconomic variables on satisfaction in multi-storey housing in the study area. Categorical regression analysis was carried out using optimal scaling method. In carrying out this analysis, the level of residential satisfaction was the dependent variable, while respondents' highest level of education, marital status, tenure status, employment status, monthly income, gender, age, household size, length of stay and ethnicity were the independent (predictor) variables. Table 1 shows that much of the variance in the dependent variable is explained by the regression model with Multiple R = 0.911, and $R^2 = 0.831$. This indicates that the regression model explains 83.1% of the variance in the level of housing satisfaction in the study area, which is substantially high. The result also shows that ($F=10.121$, $df = 49$, $p = 0.000$), which also indicates that the result and regression model are statistically significant at $p < 0.05$ and therefore there is significant relationship generally between socioeconomic characteristics and housing satisfaction. This is similar to the findings Ibem (2011), which established a significant relationship between socioeconomic characteristics of residents and in housing satisfaction. This provides an insight into the significance of socioeconomic characteristics in the performance of residential environments in Nigeria. It lends credence to the cursory assessment of housing in Nigerian cities by Amole (2009) and Ibem (2011) which recommended that socioeconomic characteristics of residents were very important considerations for housing satisfaction.

From the table, it is evident that out of the ten variables, three were significant predictors of level of housing satisfaction. The variables identified to have significant effect on level of housing satisfaction in order of importance include length of stay (Beta = 0.814), employment status (Beta = 0.542), and tenure status (Beta = 0.531). The strongest significant predictor however, is length of stay, while the weakest is tenure status. Highest level of education, marital status, monthly income, gender, age, household size, and ethnicity had no significant relationship with housing satisfaction in this context.

This study has shown that few of the socioeconomic variables had significant relationship with housing satisfaction. Employment status was significant predictors of housing satisfaction in this context, while it was surprising that income level was not. People receive income when they are employed, and therefore, this should increase the possibility of choosing an appropriate residential environment for themselves, which should have positive influence on their level of satisfaction. In this context, income was not a significant predictor because most of the respondents were low-income earners, earning below ₦41,000 monthly. This does not agree with the findings of Huang and Du (2015), which observed that household income influences housing satisfaction. Homeownership is always considered as an important predictor of housing satisfaction. Therefore, tenure status had significantly relationship with the level of housing satisfaction in this context because it determines fulfillment, achievement and self-actualization. This finding is similar to the findings of Mohit and Azim (2012) and Zumbro (2014). This implies that that if government of Nigeria promotes homeownership in multi-storey housing in the country, it would enhance the level of housing satisfaction. Length of stay was a significant predictor in this study because, the residents tend to adapt to their living environments after some years of living there.

Age was not a significant predictor in this context and this agrees with the findings of Huang *et al* (2015) which found that age does not influence satisfaction. This could be so because, households

are made up of people of different ages, and their disposition about the living environment is usually the same regardless of their different ages. In consonance with the finding of Amole (2009), this study also found that gender does not influence housing satisfaction. This is so because in this context, there are twice as many male respondents as women.

Level of education is not a significant predictor of level of housing satisfaction in this context. This is surprising because it is contrary to the findings of Huang and Du (2015), which reported that, educated positively influences housing satisfaction. In the same vein, household size was not a significant predictor of satisfaction in this context. This is different from the findings of Chen, *et al* (2013), and Huang and Du (2015), which found that household size influences the level of housing satisfaction. Marital status was also not a significant predictor in this context and the reason is due to the high percentage of singles living in the apartments.

Table 1: Socioeconomic Characteristics and Satisfaction

Items	Standardized Coefficients		Df	F	Sig
	Beta	Estimate of the Standard Error			
Sex	0.161	0.208	2	0.603	0.553
Age	0.118	0.415	1	0.081	0.778
Marital Status	0.211	0.255	2	0.684	0.512
Education	0.751	0.434	1	2.999	0.093
Employment Status	0.542	0.227	3	5.708	0.003**
Monthly Income	0.501	0.256	1	3.818	0.059
Tenure Status	0.531	0.290	2	3.359	0.047*
Length of Stay	0.814	0.396	1	4.223	0.048*
Household Size	0.167	0.175	1	0.907	0.348
Ethnicity	0.066	0.199	2	0.110	0.896
Multiple R	R Square	Adjusted R Square	df	F	Model Sig.
0.911	0.831	0.749	49	10.121	0.000

Dependent variable: Satisfaction with the general design of house

* Significant at 0.05; ** Significant at 0.01

CONCLUSION

This study analyzed the relationship between socioeconomic variables and the level of housing satisfaction in the study area. The socioeconomic variables were factors that predict the level of satisfaction. Results showed that the respondents were largely satisfied with their houses; and those socioeconomic variables are indeed significant predictors of housing satisfaction, confirming the finding from previous studies. However, most of the variables did not significantly predict satisfaction in the study contrary to most of the previous studies. Reasons for this were also provided. This paper has contributed to existing body of knowledge in this regard by showing that the situation in multi-storey housing is different from other forms of housing.

The satisfaction variable with the highest index is that of quality of floor finishing, while the lowest was spaces for laundry. The predictive power of the regression model in the level of residential satisfaction was found to be substantially high with adjusted R Square of 0.831 and a p-value of 0.000. This means that these variables jointly predict the level of satisfaction despite most of them

not distinctively having a significant relationship with it. Among the ten independent variables used in the regression analysis, employment status, tenure status and length of stay had significant relationship with satisfaction. This has shown that the factors influencing residential satisfaction in multi-storey housing are different from those of low-rise buildings. Nevertheless, it is possible for the result to be different in another context. Consequently, further studies are required to better understand this relationship in multi-storey housing in order to discover what the result would be in other contexts in Nigeria. Developers, building professionals and housing policy makers will require the findings from such studies to improve the level of residential satisfaction for future housing and to manage existing ones.

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