Housing characteristics as determinants of Sexuality and Reproductive behaviour of Rural and Urban Adolescents in the Southwestern Nigeria

Oyeleye, O.[1,2]; Bigon, L.[1]; Obidiya, M.O[3]; Ogunkan, D.V[4]; Olatunji, S. A[5]; Idowu, K.[6]

[1]School of Architecture, Ariel University, Israel; [2]Tourism Department, Osun State University, Nigeria; [3]Geography Department, Osun State University; [4]Urban and Regional Planning Department, Bells University, Ota, Nigeria; [5]Urban and Regional Planning Department, Federal University Oye-Ekiti, Nigeria; [6]Estate Management Department, Ajayi Crowther University, Oyo.

Author for *Correspondence:* **oyewale.oyeleye@uniosun.edu.ng**

Abstract

One of the main essentials of life is housing. A major problem in Nigeria is access to adequate housing. Housing conditions in Nigeria are worrisome and it has been documented in literature that human behaviour is not unconnected to their home environment. This study examines the influence of housing characteristics on sexuality and reproductive behaviour of rural and urban adolescents in southwest Nigeria. Random and systematic sampling were used to draw 1,150 adolescents from three urban areas while purposive and total enumeration techniques were used to sample 224 adolescents from three rural areas. Multiple Analysis of Variance (MANOVA) was used to analyse how housing characteristics influenced sexuality and reproductive behaviour of adolescents in urban and rural areas. Our findings show that Nigerian adolescents are becoming more reproductive than being productive, due to their alarming rate of illicit sexual practices. Manova Test showed that number of households in a house influenced significantly frequency of sex had by both rural and urban adolescents in 6 months with p values < 0.05. The study concludes that the level of housing deterioration in Nigeria has largely influenced illicit sexual practices among adolescents. Thus, it is pertinent for government to efficiently provide affordable housing to Nigerians and intensify efforts in public enlightenments against illicit sexual behaviour among adolescents.

Keywords: Housing, rural, urban, adolescent, sexuality, environment, behaviour

1. Introduction

Among the basic needs of man, irrespective of colour, language or age, is housing (Olatunji, 2018). Housing is described as any type of permanent shelter for man, which gives him a sense of identity (Omoniyi and Jiboye, 2009). Housing is also noted to be pivotal to survival, quality of life, and fundamental to the human state of health (Odoyi and Riekkinen, 2022). However,

Agbola (2004) argues that despite man's innovative ingenuity and adaptive ability to the environment, human beings still condition and are conditioned by the houses they occupy. Similarly, Coley *et al.,* (2013) opine that housing characteristics in terms of quality, stability, affordability, and ownership predict emotional and behavioural problems in adolescence. Adeboyejo and Oyeleye (2016) describe adolescence as a period of transition from childhood to adulthood. Adolescents constitute a group of virile young persons of about 20 percent of the world population with about 85 percent of them in developing countries, and sub-Saharan African countries having larger proportion of adolescents than any region in the world (Okonofua, 2000). United Nations Population Fund (2006) estimates global population of adolescents to be 1.3 billion, while National Population Commission (2014) puts population of adolescents in Nigeria at 60.4 million. Oyeleye (2019) describes age group of adolescents as 2 years before teenage (preparatory period to leave childhood) and two years after teenage (preparatory period to enter adulthood), i.e. 11 to 21 years of age.

In Nigeria, before twenty (20) years of age, 70% of female and 37% male adolescents respectively must have become sexually active and they rarely use any means of protection (Nigeria Demographic and Health Survey, 2013); consequently, Nigerian adolescents of ages 15 to 19 years rank among the highest in level of fertility, with 112 births per 1,000 females (James, 2012). Nigeria Demographic and Health Survey (2013) shows that 54% of women had first sexual intercourse by 18 years of age. Similarly, the study by Adebule and Ibimiluyi (2012) is in accordance with the conclusion of Coetzee *et al.,* (2005) that, there is higher level of sexual activities among girls than boys in Nigeria. The first case of HIV in Nigeria was reported in 1986, through a sexually active female adolescent of thirteen (13) years of age (Entonu and Agwale, 2007); about 3.6 million Nigerians are living with HIV/AIDS with adolescents more affected

(Danjim and Onajole, 2009). Similarly, despite the fact that Nigeria is anti-choice, Henshaw *et al.,* (1998) opine that about 610,000 induced abortions are carried out in Nigeria annually. It has been estimated that over half of maternal deaths in Nigeria are related to unsafe abortion (Orisaremi, 2012), while 80% of abortions are carried out by adolescents (Atere, *et al*., 2012).

Cohen *et al*., (2003) liken broken window theory to adolescent sexual behaviour. The broken window theory suggests that individual behaviour may be determined or motivated in part through messages conveyed by the physical appearance of a neighbourhood (Lang *et al*., 2010). Thus, a disordered and chaotic neighbourhood characterized with deteriorating housing, broken windows, graffiti, abandoned cars and buildings, and heap of wastes may provoke unacceptable behaviour like rape, child abandonment, and illicit sex inter alia which when unchecked may overtime become normative in such neighbourhood (Lang, *et al*., 2010). Similarly, neighbourhood deterioration has been linked with sexually transmitted infections especially among adolescents from the concept of Broken Window Theory (Lang, *et al*., 2010). Study by Rameli *et al*., (2014) also concludes that, the lower the adolescent's housing quality, the higher the adolescent's involvement in deviant behaviour. In the same vein, Xiaoming, *et al*., (1994) affirm that variations in housing structures influence early sexual intercourse among young persons. Also, Coley *et al*., (2013) document that housing characteristics in terms of quality, stability, affordability, and ownership predict emotional and behavioural problems in adolescence. Studies have shown the deplorable conditions of urban housing in Nigeria (Olotuah, 2006 and Yoade, 2012; Odoyi and Riekkinen, 2022; Salau *et al*., 2023; Oyeleye *et al*., 2023). The studies affirm that 75% of the dwelling units in urban centres in Nigeria are substandard and the dwellings are sited in slums.

The housing characteristics and/or home environment where adolescents live largely determine their sexual vulnerability (Adeboyejo and Onyeonoru, 2005; Olatunji, 2014 and Yoade, *et al*., 2023). There is no gainsaying in the fact that, housing problems in Nigeria, in terms of quantity and quality in urban areas, and in terms of quality in rural areas, are serious concerns that call for urgent attention from both public and private sectors in Nigeria. There have been arguments in the literature that deviant behaviour, such as smoking, thuggery, drugs, rape, abortion, illicit sexual acts and gambling among others, are triggered by human environment, especially among young

adults (Jelili, *et al*., 2013; Folayan *et al*., 2015; Moyosore, 2016; Oyeleye *et al*., 2020 and Olatunji, *et al*., 2022). Against this backdrop, this study examines the impact of housing characteristics on sexuality and reproductive behaviour of rural and urban adolescents in Southwest, Nigeria.

2. Study Area

Nigeria is located in Western Africa on the Gulf of Guinea with a total area of 923,768 km^2, making it the world's 32nd largest country after Tanzania (Uthman, 2008). Nigeria's population in 2015 was about 180 million with a national growth rate estimated at 3.2% per annum (Population Reference Bureau, 2015). With this population, Nigeria is the most populous nation in Africa, south of the Sahara and the seventh most populous country in the world (Population Reference Bureau, 2015). Nigeria is comprised of 36 States and a Federal Capital Territory; and grouped into six regions: North-Central, North-East, North-West, South-East, South-South and South-West (Figure 1). The people in the Northern region of Nigeria are predominantly Hausa/Fulani who are Muslims, while Igbo/Yoruba who are Christians take dominance of the Southern region of Nigeria (Adebowale, *et al*., 2016). Southwestern Nigeria lies between longitude 3°E and 7°E and Latitude 4°N and 9°N and thus, West of the lower Niger and South of the Niger Trough (Omogbai, 2010). Southwestern Nigeria comprises of six states which are Lagos, Oyo, Osun, Ogun, Ondo and Ekiti States. This study focuses on three out of the six States which are Oyo, Osun and Ekiti States, with attention on one urban center and one rural area each of the three (3) states (Ogbomoso and Baale-Oba in Oyo State; Ilesa and Iwaraja in Osun State; and Ado-Ekiti and Iroko in Ekiti State) represented the sampled urban and rural areas respectively.
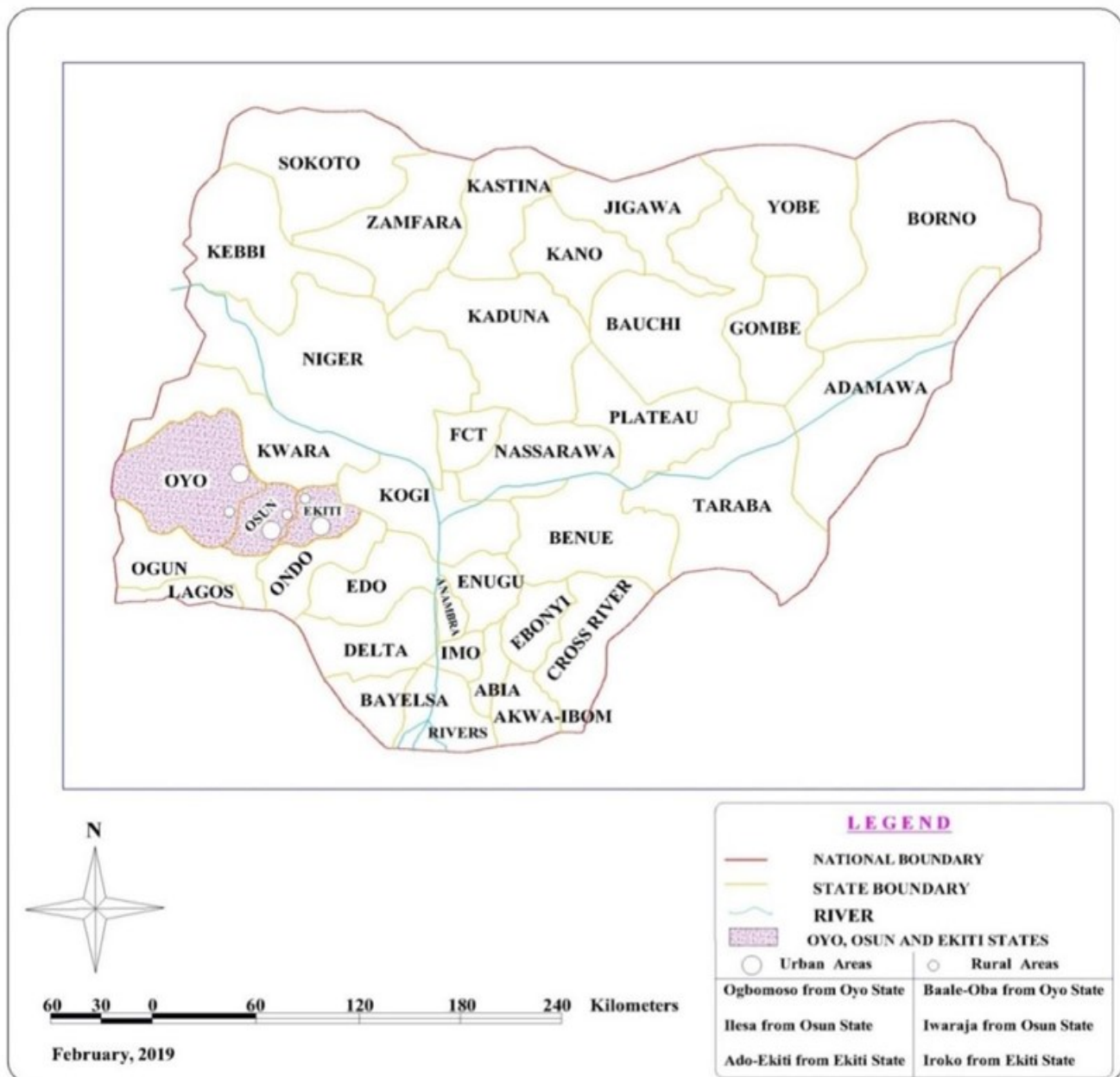
3. Research Methodology

Random sampling through balloting was used to select three out of six States of Southwest Nigeria in order to cover half of the region. Thus, Oyo, Ekiti and Osun States were sampled for this study. Lists of urban centres in the sampled States were compiled based on population sizes and random sampling technique was used to select an urban area from each of the three sampled States. The sampled urban areas

were Ilesa in Osun State, Ogbomoso in Oyo State and Ado-Ekiti in Ekiti State. In order to have adequate representations of adolescents living in high, medium and low densities from each of the three sampled urban areas, a sampling proportion of 3:2:1 as used by Adeboyejo and Onyeonoru (2005) was adopted by the study to determine simple random selection of 10, 7 and 4 localities from the compiled localities in high, medium and low densities respectively. Systematic random sampling was employed to select the first housing unit at random and the subsequent housing units were selected at every 3rd interval along each of the sampled localities. Thus, a total sample size of 1,150 urban adolescents was sampled for this study (see Table 1).

Similarly, purposive sampling was used to select rural area from each of the sampled three states as there are many rural areas based on different definitions and categorizations. The rural areas sampled were Iwaraja in Osun State, Baale-Oba in Oyo State and Iroko in Ekiti State. Total enumeration technique was used for the selection of 224 adolescents as a

Figure 1. Nigeria showing Oyo, Osun and Ekiti States with the Selected Urban and Rural Areas

sample size from the three sampled rural areas as further indicated in Table 2.

Multiple Analysis of Variance (3-WAY MANOVA) was used to examine if and to what extent housing characteristics influenced sexuality and reproductive behaviour of rural and urban adolescents. The variables used to measure sexual and reproductive behaviour of rural and urban adolescents were number of sex had in the last one year, age of sex partner and number of abortion ever had. The predictor variables used to measure housing charac-

Table 1.   Sampling Frame and Sample Size of Adolescents from the Urban Areas

Sampled States	Urban Areas	Population Figure (2006)	Adolescent Population (2006)	% of Adolescent	2017 Population Projection		Sample Size of Adolescents
					Population Figure	Adolescent Population	
Osun	Ilesa	212,225	49,465	23.31%	300,105	69,948	382
Oyo	Ogbomoso	299,238	70,411	23.53%	423,149	99,567	384
Ekiti	Ado-Ekiti	313,690	76,214	24.30%	443,586	107,773	384
Total		825,153	196,090	23.76%	1,166,840	277,288	1,150

Source: Modified after National Population Census (2006)

Table 2. Sampling Frame and Sample Size of the Adolescents from the Rural Areas

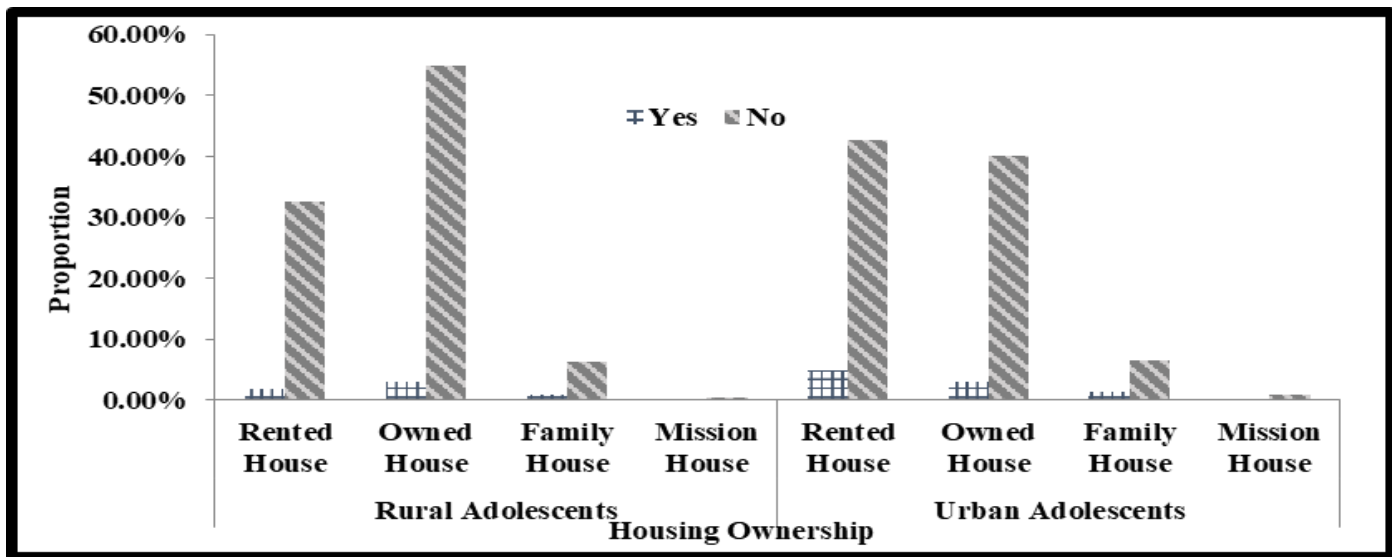| S/N	Sampled States	Study Areas	Population Figure	Adolescents' Population	Sample Size	Method of Data Collection
1	Osun	Iwaraja	327	48	48	Total Enumeration
2	Oyo	Baale-Oba	245	41	41	Total Enumeration
3	Ekiti	Iroko	830	135	135	Total Enumeration
		Total	1,402	224	224	

Source: Authors' Survey, 2019.

4.   Results and Discussions

4.1.   *Housing Ownership and Sex Initiation by Rural and Urban Adolescents*

Figure 2 reveals that higher proportions of rural adolescents who either lived in rented apartments or owned houses had initiated sex with 25.44% and 41.96% respectively. Conversely, more proportions of urban adolescents that had initiated sex lived either in rented apartments with 30.70% or lived in owned houses with 29.13%. However, most of rural adolescents who had had sex lived in owned houses (41.96%), while most of the urban adolescents who lived in family houses and mission houses had the least proportions of adolescents who had initiated.

Figure 2: Housing Ownership and Sex Initiation by Rural and Urban Adolescents

(Source: Authors' Survey, 2019)

*4.2.*Housing Ownership and Abortion Done by Adolescents

Table 3 reveals that the highest proportion of rural adolescents (3.12%) that had done abortion lived in houses owned by their parents, while none of the rural adolescents who lived in mission house had abortion. Conversely, the highest proportion of urban adolescents that had done abortion (5.01%)

lived in houses rented by their parents, while the least of urban adolescents who had never had abortion (0.18%) lived also in mission house. Table 3 indicates that female adolescents in urban areas who lived in rented apartments were more vulnerable to abortion than their counterparts who lived in owned houses or mission houses.

Table 3: Whether Adolescent had done Abortion before

Housing Ownership	Have You Done Abortion Before?					
	Rural Adolescents			Urban Adolescents		
	Yes	No	Total	Yes	No	Total
Rented House	4 1.78%	73 32.59%	77 34.37%	57 5.01%	487 42.79%	544 47.80%
Owned House	7 3.12%	123 54.91%	130 58.03%	35 3.07%	457 40.16%	492 43.23%
Family House	2 0.89%	14 6.25%	16 7.14%	15 1.32%	75 6.59%	90 7.91%
Mission House	-	1 0.45%	1 0.45%	2 0.18%	10 0.88%	12 1.05%
Total	13 5.80%	211 94.20%	224 100.00%	109 9.58%	1,029 90.42%	1,138 100.00%

Source: Authors' Survey, 2019.

4.3. Number of Families Living in a House and Adolescents in Boy/girlfriend Relationship

Table 4 summarizes that, as the number of families who lived in a house increased, the possibility of both rural and urban adolescents that were living in such house to have boy/girlfriend increased. Table 4 shows that as the number of families that lived in a house increased, the proportion of rural adolescents that had boy/girlfriend increased, while all rural adolescents who lived in a house with above 4 families (4.46%) had boy/girlfriend. Similarly, 5.80% out of 7.59% of rural adolescents who lived in a house with four fami-

lies were into boy/girlfriend relationship, while 5.81% out of 7.59% of rural adolescents who were either into boy/girlfriend relationship or married lived in a house with 3 families. It is observable from Table 4 that lower proportion of 13.88% out of 23.29% of urban adolescents who lived as the only family in a house claimed to be in boy/girlfriend relationship, while higher proportion of 9.93% out of 12.65% of urban adolescents who lived in a house with more than five families as tenants claimed to have boy/girlfriends.

Table 4. Number of Families Living in a House and Adolescents with Boy/girlfriend

Number of Families in a House	Adolescents in Boy/girlfriend Relationship						
	Rural Adolescents				Urban Adolescents		
	Yes	No	Married	Total	Yes	No	Total
1	110 49.11%	18 8.03%	14 6.25%	142 63.39%	158 13.88%	107 9.40%	265 23.29%
2	30 13.39%	9 4.02%	2 0.89%	41 18.30%	169 14.85%	88 7.73%	257 22.58%
3	12 5.36%	1 0.45%	1 0.45%	14 6.25%	121 10.63%	72 6.33%	193 16.96%
4	13 5.80%	4 1.78%	-	17 7.59%	109 9.58%	66 5.80%	175 15.38%
5	10 4.46%	-	-	10 4.46%	61 5.36%	43 3.78%	104 9.14%
Above 5	-	-	-	-	113 9.93%	31 2.72%	144 12.65%
Total	175 78.13%	32 14.28%	17 7.59%	224 100.00%	731 64.24%	407 35.76%	1,138 100.00%

Source: Authors' Survey, 2019.

4.4. Number of Households in a House and View about Making Abortion Legal in Nigeria

The number of families residing in a house as tenants has influence on the possibility of both rural and urban adolescents to declare support in legalizing abortion in Nigeria (Table 5). The analysis reveals that as the number of families residing in a house increase, the proportions of adolescents from both rural and urban adolescents who support abortion increase. The lowest proportion of rural adolescents who support legalizing abortion in Nigeria are from a single family living in a house (i.e. 1.34% out of 63.39%). Also, 2.23% out of 18.30% of rural adolescents who support legalizing abortion are from a house where two families live as tenants; while the highest proportion of rural adolescents who support legalizing abortion in Nigeria (2.68% out of 4.46%) live in a house where five families reside as tenants. Similarly, the lowest proportion of 1.86% out of 23.49% of urban adolescents who supports legalizing abortion in Nigeria lives alone in a house, while the highest proportion of 2.92% out of 12.76% of urban adolescents that supports legalizing abortion live in a house with above five families. However, larger proportions of both rural and urban adolescents are generally against legalizing abortion in Nigeria with 92.41% and 87.23% respectively.

Table 5. Number of Households in a House and View about Making Abortion Legal in Nigeria

Number of Families in a House	Adolescents' View about Declaring Abortion Legal					
	Rural Adolescents			Urban Adolescents		
	Yes	No	Total	Yes	No	Total
1	3 1.34%	139 62.05%	142 63.39%	21 1.86%	244 21.63%	265 23.49%
2	5 2.23%	36 16.07%	41 18.30%	34 3.01%	220 19.50%	254 22.52%
3	3 1.34%	11 4.91%	14 6.25%	19 1.68%	171 15.16%	190 16.84%
4	-	17 7.59%	17 7.59%	27 2.39%	144 12.76%	171 15.16%
5	6 2.68%	4 1.78%	10 4.46%	10 0.89%	94 8.33%	104 9.22%
Above 5	-	-	-	33 2.92%	111 9.84%	144 12.76%
Total	17 7.59%	207 92.41%	224 100.00%	144 12.77%	984 87.23%	1,128 100.00%

Source: Authors' Survey, 2019.

4.6. Room Occupancy and Adolescents who had Initiated Sex

Figure 3 indicates that adolescents who sleep alone in a room delay sex initiation than adolescents who sleep in a room with other persons. The highest proportion of rural adolescents who had initiated sex (31.03%) claimed to sleep with two other persons in a room. Similarly, the highest proportion of urban adolescents who were sexually active (14.21%) claimed to sleep with another person in a room. Rural and urban adolescents who claimed to be sleeping with three other persons in the same room had initiated sex with 11.49% and 5.63% respectively. However, the least proportions with 0% for rural adolescents and 1.61% of urban adolescents who sleep alone in a room claimed to be sexually active. Obateru (2003)
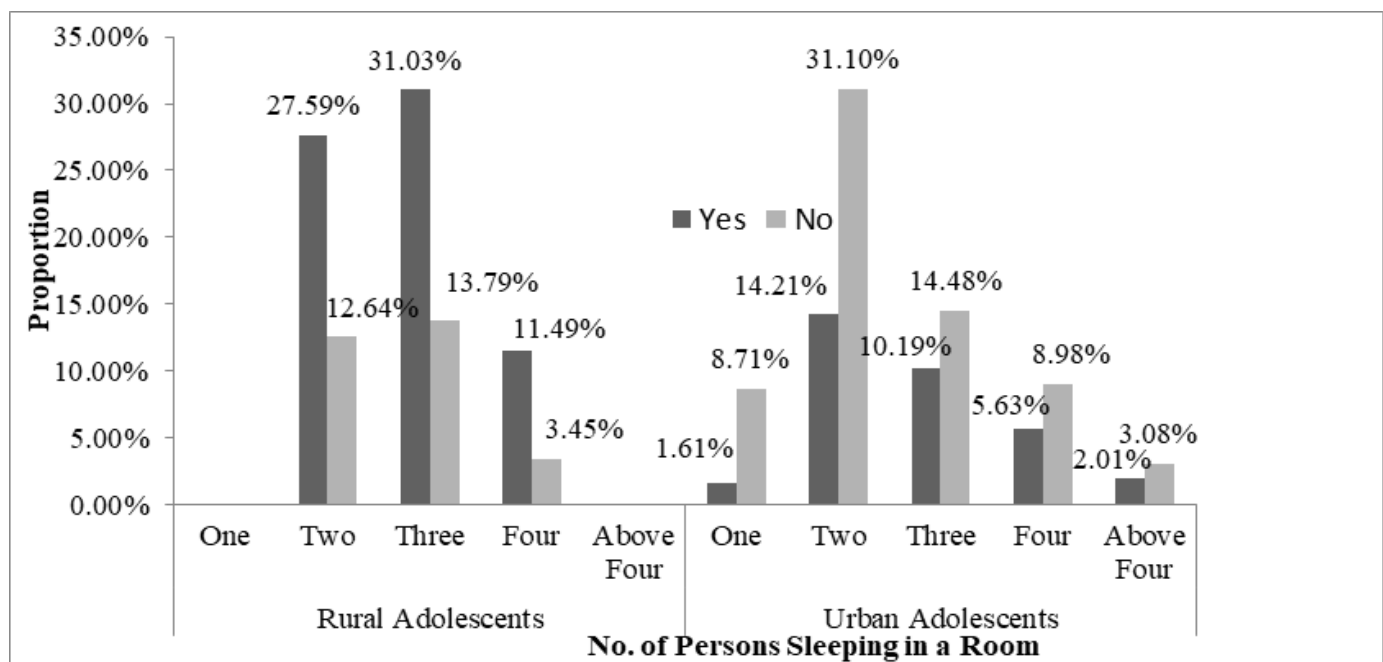
defines overcrowding as when more than 1, 1.5 and 2 persons occupy a room in low, medium and high residential densities respectively. Figure 3 confirms that overcrowding plays important roles in determining the possibility of either rural or urban adolescents to be sex-

ually active. Thus, there is higher possibility that adolescents who sleep with other person(s) in a room may likely be more sexually active than adolescents that sleep alone.

Table 6. Room Privacy and Adolescents who had Initiated Sex

Do You Have Private Room?	Sex Initiation					
	Rural Adolescents			Urban Adolescents		
	Yes	No	Total	Yes	No	Total
Yes	44 19.64%	6 2.68%	50 22.32%	175 15.29%	349 30.51%	524 45.80%
No	122 54.46%	52 23.21%	174 77.68%	215 18.79%	405 35.40%	620 54.19%
Total	166 74.11%	58 25.89%	224 100.00%	390 34.09%	754 65.91%	1,144 100.00%

Figure 3: Number of Person(s) Sleeping in a Room and Sex Initiation by Adolescents

Source: Authors' Survey, 2019.

4.7 Description of Room Size and Adolescents' HIV/AIDS Status

Despite the fact that medical confirmation of HIV/AIDS status is free for every person in Nigeria, several people in developing nations eschew the confirmation of their status (WHO, 2004). However, Table 7 examines any association between the size of room which adolescents sleep and the level in which they knew their HIV/AIDS status. Table 7 reveals fewer proportions of both rural and urban adolescents who had done HIV/AIDS test before with 16.07% and 27.67% respectively. However, among rural adolescents who had done HIV/AIDS test, those who sleep in a big room (i.e. 7.5 to 12 asbestos) had higher proportion of 12.50%, while those who sleep in very small room (i.e. less than 6 asbestos) had lesser proportion of 3.57%.

.8. Housing Condition and Age at which Adolescents Had First Sex

Omoniyi and Jiboye (2009) describe housing as any type of permanent shelter for man, which gives him an identity. Coley *et al*., (2013) opine that housing conditions in terms of quality, stability, affordability, home appliances and ownership predict emotional and behavioural problems in adolescence. However, Xiaoming, *et al*., (1994) affirm that variations in housing conditions influence early sexual inter-course among young persons. Table 8 shows that no rural adolescents had first sex below 11 years of age, while 1.80% of urban adolescents claimed to have the first sex below 11 years of age with those living in good housing having the higher proportion of 1.29% out of the 1.80%. Similarly, higher proportion of rural adolescents (44.24%) that had first sex between 15 – 18 years of age (i.e. middle adolescence) lived in housing with poor conditions. Similarly, urban adolescents who sleep in a big room (i.e. 7.5 to 12 asbestos) had more proportion of those who had done HIV/AIDS test with 12.91%, while lower proportion of rural adolescents who had done HIV/AIDS test sleep in a very small room (i.e. less than 6 asbestos) with 1.86%. It is evident from the results of Table 7 that the bigger the size of a room where adolescent sleeps, the higher the possibility of such adolescent to have done HIV/AIDS test and the smaller the size of a room where adolescent sleeps, the lower the possibility of such adolescent to know his/her HIV/AIDS status.

Table 7. Room Size and HIV/AIDS Status of Adolescents

Size Description of the Room	Adolescents' Confirmation of HIV/AIDS Status					
	Rural Adolescents			Urban Adolescents		
	Yes	No	Total	Yes	No	Total
Less than 6 Asbestos (3.0m x 3.0m) (Very Small Room)	8 3.57%	8 3.57%	16 7.14%	21 1.86%	68 6.01%	89 7.87%
6 to 7.5 Asbestos (Small Room) (3.0m x 3.0m) to (3.0m x 3.6m)	-	31 13.84%	31 13.84%	88 7.78%	294 25.99%	382 33.77%
7.5 to 12 Asbestos (Big Room) (3.0m x 3.6m) to (4.2m x 4.2m)	28 12.50%	143 63.84%	171 76.34%	146 12.91%	366 32.36%	512 45.27%
Above 12 Asbestos (4.2m x 4.2m) (Very Big Room)	-	6 2.68%	6 2.68%	58 5.13%	90 7.96%	148 13.09%
Total	36 16.07%	188 83.93%	224 100.00%	313 27.67%	818 72.33%	1,131 100.00%

Source: Authors' Survey, 2019.

4.9. 3-Way Manova Test on the Influence of Housing Characteristics on Sexuality and Reproductive Behaviour of Rural Adolescents

Table 9 indicates that the number of households in a house had a significant influence on all the criterion variables measuring sexuality and reproductive behaviour of rural adolescents i.e. number of sex in the last 6 months, age of sex partner and number of abortions rural adolescents had as $p < 0.05$. Also, Table 10 shows that household size had a significant influence on both number of sex had in the last 6 months and age of sex partner of rural as $p < 0.05$, while no interaction was observed between the household size and number of abortion had by rural adolescents. Thus, the implication is that the household size is important in explaining the mean differences in number of sex had in the last 6 months and age of sex partners of rural adolescents.

Thus, the implication is that the household size is important in explaining the mean differences in number of sex had in the last 6 months and age of sex partners of rural adolescents. Similarly, Table 11 reveals that room density had a significant influence on both number of sex had in the last 6 months and number of abortion had by rural adolescents as $p < 0.05$, while room density had no significant influence on the age of sex partners of rural adolescents as $p > 0.05$

Also, high proportion of urban adolescents (38.66%) that lived in good housing affirmed to have had sex between 15 to 18 years of age. Similarly, 11.08% and 13.66% of urban adolescents that lived in good housing had first sex between 11 – 14 years of age and 19 – 21 years of age respectively. This section interprets that rural adolescents who lived in poor housing had sex debut earlier than their counterparts living in good housing. However, conversely, urban adolescents who lived in housing with good conditions had first sex earlier in age than adolescents that lived in poor housing. This may not be unconnected to high level of exposure of adolescents living in good housing to internet-enabled devices, watching videos with sexual contents on TV decoders and access to latest technology

Table 8: Housing Description and Age at First Sex

Age at First Sex	Housing Description of Adolescents							
	Rural Adolescents			Urban Adolescents				
	Poor Housing	Good Housing	Total	Very Poor Housing	Poor Housing	Good Housing	Very Good Housing	Total
Below 11	-	-	-	1 0.26%	-	5 1.29%	1 0.26%	7 1.80%
11-14 Years	61 36.97%	10 6.06%	71 43.03%	1 0.26%	7 1.80%	43 11.08%	23 5.93%	74 19.07%
15-18 Years	73 44.24%	18 10.91%	91 55.15%	11 2.84%	36 9.27%	150 38.66%	38 9.79%	235 60.57%
19-21 Years	-	3 1.82%	3 1.82%	-	4 1.04%	53 13.66%	15 8.76%	72 18.56%
Total	134 81.21%	31 18.79%	165 100.00%	13 3.35%	47 12.11%	251 64.69%	77 19.85%	388 100.00%

Source: Authors' Survey, 2019.

Table 9. Interaction Between the Number of Households in a House and Sexual Behaviour of Rural Adolescents

Source	Dependent Variable	df	Mean Square	F	Sig.	Remarks
Number of Households Living in a House	Frequency of sex in the last 6 months	2	1327.615	9.483	.005	Significant
	Age of sex partner	2	96.562	1103.571	.000	Significant
	Number of abortions	2	.635	4.231	.047	Significant

Source: Authors' Survey, 2019.

Table 10. Interaction Between Household Size and Sexual Behaviour of Rural Adolescents

Source	Dependent Variable	df	Mean Square	F	Sig.	Remarks
House-hold Size	Number of sex had in the last 1 year	3	885.077	5.690	.018	Significant
	Age of sex partner	3	64.042	307.400	.000	Significant
	Number of abortions	3	.923	.	.	

Source: Authors' Survey, 2019.

Table 11. Interaction Between Room Density and Sexual Behaviour of Rural Adolescents

Source	Dependent Variable	df	Mean Square	F	Sig.	Remarks
Room Density	Number of sex had in the last 1 year	2	1550.865	16.265	.001	Significant
	Age of sex partner	2	8.562	.484	.630	N. Significant
	Number of abortions	2	.635	4.231	.047	Significant

Source: Authors' Survey, 2019. (Note: α= 0.05 and N. = Not)

4.10.. 3-Way Manova Test on the Influence of Housing Characteristics on Sexuality and Reproductive Behaviour of Urban Adolescents

Table 12 documents that out of the three criterion variables measuring sexuality and reproductive behaviour of urban adolescents, only age of sex partners of urban adolescent was influenced significantly by the number of households living in a house with $p < 0.05$. Thus, the implication is that the number of households living in a house is strong enough to influence age of sex partners of urban adolescents. Also, Table 13 interprets that house-hold size had a significant influence on age of sex partners of urban adolescents with $p < 0.05$; while household size did not influence significantly both number of sex in the last 6 months and number of abortion had by urban adolescents as $p > 0.05$. Thus, the implication is that the household size is important in explaining the mean differences in age of sex partners of urban adolescents. Table 14 shows that room density had significant influence on number of sex had in the last 6 months, age of sex partners and number of abortion urban adolescents had with $p < 0.05$. Thus, the implication is that room density is important in determining the three vari-

ables measuring sexuality and reproductive behaviour of urban adolescents.

Table 12: Interaction Between Number of Households and Sexual Behaviour of Urban Adolescents

Source	Dependent Variable	df	Mean Square	F	Sig.	Remarks
Number of House-holds Living in a House	Number of sex in the last 6 months	7	269.767	1.971	.075	N. Significant
	Age of sex partner	7	125.744	3.128	.007	Significant
	Number of abortions	7	.696	.377	.912	N. Significant

Source: Authors' Survey, 2019.

Table 13: Interaction Between the Household Size and Sexual Behaviour of Urban Adolescents

Source	Dependent Variable	df	Mean Square	F	Sig.	Remarks
Household Size	No. of sex had in the last 6 months	9	248.645	1.835	.082	N. Significant
	Age of sex partner	9	112.811	2.876	.007	Significant
	Number of abortions	9	2.484	1.550	.153	N. Significant

Source: Authors' Survey, 2019.

Table 14: Interaction between Room Density and Sexual Behaviour of Urban Adolescents

Source	Dependent Variable	df	Mean Square	F	Sig.	Remarks
Room Density	Number of sex had in the last 6 months	5	661.861	5.793	.000	Significant
	Age of sex partner	5	126.953	3.549	.009	Significant
	Number of abortions	5	1.829	2.870	.026	Significant

Source: Authors' Survey, 2019.

5.   Conclusion

The level of housing deterioration over the years in Nigeria is quite worrisome. The pace of population growth in Nigeria urban centers has continued to strain already stressed housing stock. Room overcrowding has become part of life in all urban centers in Nigeria, while housing in most of the rural areas in Nigeria are in deplorable conditions. Human behaviour, especially of young adults has been documented in literature to be greatly influenced by environmental and housing conditions. This study has similarly established a strong interconnection between housing characteristics and adolescent sexuality and reproductive behaviour. In order to make Nigerian adolescents more productive rather than being reproductive indiscriminately, the following recommendations are thus proffered; the primary goal of National Housing Policy in Nigeria is to make all Nigerians have access to affordable and adequate housing. All the three tiers of government should synergize to make this goal achievable. Low-cost housing with cultural inclinations and participation of public concerned should be embarked upon by government at all levels;

neighbourhood design or layout preparation should avoid footpaths. Illicit sexual acts have been found to be practiced on footpaths by youngsters especially at night. Beacon to beacon without any space in-between two plots should be adopted in layout design in order to minimize chance for illicit sexuality and reproductive behaviour;

All stakeholders, including the public and private sectors and community-based organizations, need to strengthen campaigns on responsible sexuali-

ty and reproductive behavior among adolescents. These campaigns can be conducted in schools, health facilities, religious centers, and through media platforms; and

Rural areas in Nigeria suffer greatly from a lack of basic infrastructure, including electricity, roads, potable water, and adequate housing, among others. The government should focus on infrastructural development in these areas, as this study has highlighted its relevance to adolescent sexuality and reproductive behavior.

References;

Adebowale, A.S; Fagbamigbe, A.F; and Adebayo, A.M (2016) "Regional Differences in Adolescent Childbearing in Nigeria" *Journal of Population and Social Studies*, Volume 24, Number 2, pp 101-116

Adeboyejo, A.T. and Onyeonoru, I.P. (2005) "Aspects of Home Environment and Adolescent Sexual Behaviour in Southwestern Nigeria" *African Population Studies*: 20 (1):45-52

Adeboyejo, A.T and Oyeleye, O.I (2016) "The Home Environment and Adolescents' Sexuality and Reproductive Behaviour in Ondo Town, Nigeria" *American Journal of Sustainable Cities and Society*. Issue 2 Vol. 1, pp 79 – 95

Adebule, S.O. and Ibimiluyi, F.O. (2012) "An Assessment of the Prevalence of Sexual Immorality among Secondary School Students in South West Nigeria" *Research Journal in Organizational Psychology & Educational Studies* 1(6) 362

Adimora, D. E; Akaneme, I. N, and Aye, E. N. (2018). "Peer pressure and home environment as predictors of disruptive and risky sexual behaviours of secondary school adolescents" *Afri Health Sci.;18*(2), 218-226. https://dx.doi.org/10.4314/ahs.v18i2.4

Omoniyi, O. and Jiboye, A.D. (2009) "Effective Housing Policy and Sustainable Development in Nigeria" Proceedings of International Conference on Research and Development, Cotonou, Benin 2(15) pp. 87-93, November 24-27

Orisaremi, T. C. (2012) "An Explorative Study of Abortion among the Tarok in Central Nigeria" *African Sociological Review*, 16 (1), 61-76

Oyeleye, O. I (2019) "Spatial Dimension of Adolescent Sexuality and Reproductive Behaviour in Southwestern Nigeria" Unpublished PhD Thesis, Urban and Regional Planning Department, Ladoke Akintola University of Technology, Oyo State, Nigeria

Oyeleye, O. I.; Obidiya, M. O. and Adeboyejo, A. T. (2023) "Intra and Inter-Urban Variations in Adoles-

cent Sexuality and Reproductive Behaviour in Southwest, Nigeria" *Journal of Urban and Environmental Research (URP, Federal University of Technology, Akure), 3*(2)*, 9-21

Oyeleye, O. I; Obidiya, M. O and Atoyebi, O. S (2020) "Socio-economic Dimension of Sexuality and Reproductive Behaviour of Rural and Urban Adolescents in Southwest Nigeria" *Journal of Contemporary Urbanology, Volume 7, No. 1, pp 43-56, Benue State University Journal*

Population Reference Bureau (2015) "World Population Data Sheet" Washington, DC: Population Reference Bureau. Retrieved from https://www.prb.org/collections/data-sheets/

Rameli, N.A; Abdullah, H. and Ahmad, N. (2014) "Family Environment as a Moderator of the Relationship between Housing Environment and Deviant Behaviour among Adolescents in Ampang Jaya" *International Journal of Research in Humanities, Arts and Literature*, Vol. 2 Issue 8, pp 109-114

Salau, W.O; Unuigboje, R. and Olajide, O. (2023) Residents' perception of housing quality in selected informal settlement in a part of Southwestern Nigeria. *SN Soc Sci. 3*(136), 1-19. https://doi.org/10.1007/s43545-023-00731-6

UNFPA (2006) "Adolescents Realities in a Changing World" www.unfpa.org/adolescents/

Uthman, O.A (2008) "Geographical Variations and Contextual Effects on Age of Initiation of Sexual Intercourse among Women in Nigeria: A Multilevel and Spatial Analysis" *International Journal of Health Geographics* (7):27

World Health Organization (2004) Progress in Reproductive Health Research, No: 67. Geneva: WHO. **http://www.who.int/reproductive-health/hrp/progress/67.pdf**

Xiaoming Li., Stanton, B., Maureen, M.B., Romer, D., Ricardo, I. and Kaijee, L. (1994) "Risk Behaviour

and Perception Among Youths Residing in Urban Public Housing Developments" Bull New York Acad. Med., 71 (2): 252-256

Yoade A.O. (2012) "A Study of Socio-Cultural Challenges to Urban Renewal in Ile-Ife, Nigeria" Thesis for the Master of Urban and Regional Planning, Obafemi Awolowo University, Ile-Ife, Nigeria

Yoade, A. O; Olatunji, S. A. and Cirella, G. T (2023) COVID-19 and the Built Environment: Informal Sector, Housing and Shock Challenges in Nigeria. Springer Nature Switzerland AG Social and Political Development, https://doi.org/10.1007/978-3-031-21885-9_9

Agbola, Tunde (2004) "Housing Strategies" *In Readings in Urban and Regional Planning, pp 187*

Atere, A.A., Ayodele, J.O. and Omololu, O. (2012) "Abortion and Challenges of Teenage Pregnancy in Lagos, Nigeria" *International Journal of Scientific & Engineering Research*, Volume 3, Issue 4, pp 1 – 10

Coetzee, J., Louw, D.A. and Jooste, J.C. (2005) "The Perceptions of Morality of Secondary School Learners: A Cross-Cultural Study". Acta Theologica: 1.27

Coley, R.L; Leventhal, T; Lynch, A.D and Kuil, M. (2013) "Relations Between Housing Characteristics and the Well-being of Low Income Children and Adolescents" *Developmental Psychology*, Vol.49 (9), 1775-1789

Danjim, M. and Onajole, A. (2009) "HIV/AIDS Risk Behavioural Tendencies among Secondary School Students in Gombe, Nigeria" *The Internet Journal of Health*, Vol. 11, Number 1, pp 1 – 13

Entonu, P.E. and Agwale, S.M. (2007) "A Review of the Epidemiology, Prevention and Treatment of Human Immunodeficiency Virus Infection in Nigeria" *The Brazilian Journal of Infectious Diseases*, Vol.11, No. 6: 579-590

Folayan, M.O; Adebajo, S; Adeyemi, A and Ogungbemi, K.M (2015) "Differences in Sexual Practices, Sexual Behaviour and HIV Risk Profile between Adolescents and Young Persons in Rural and Urban Nigeria" PLOS ONE 10(7): 11-83

Henshaw, S.K., Singh, S., Oye-Adeniran, B., Adewole, I.F., Iwere, N. and Cuca, Y.P. (1998) "The Incidence of Induced Abortion in Nigeria" *International Family Planning Perspective*; 24: 156-64

Jelili, M.O; Akindele, O.A and Ojo Akintayo (2013) "Teenage Pregnancy and Home Environment Factors in Ogbomoso, Nigeria" Research on Humanities and Social Sciences Vol.3, No.18, pp 69- 77

James, G. (2012) "Education and Sexuality: Towards Addressing Adolescents' Reproductive Health Needs in Nigeria" *Current Research Journal of Social Sciences* 4(4): 285-293

Lang, D.L; Salazar, L.F; Crosby, R.A; Diclemente, R.J, Brown L.K and Donenberg, G.R (2010) "Neighbourhood Environment, Sexual Risk Behav-

iour and Acquisition of Sexually Transmitted Infections Among Adolescents Diagnosed with Psychological Disorders" *Am. J. Community Psychol*. 46(0); 303-311

Moyosore, A.T (2016) "Influence of Socio-demographic Factors on Adolescent's Sexual and Reproductive Health and Behaviour" *Asian Journal of Medicine and Health* 1(4): 1-10

Nigeria Demographics Profile, NDP (2013) Retrieved March 18 2014 from http://www.indexmundi.com/nigeria/demographics_profile.html/

NPC (2014), Accessed on http://www.thisdaylive.com/articles/npc-nigeria-adolescent-population-has-hit-60-4m/183457/

Obateru, R.I. (2003) "Land Subdivision Basics" Penthouse Publications, Ibadan Nigeria, Pg 42

Odoyi, E. J and Riekkinen, K. (2022). Housing Policy: An Analysis of Public Housing Policy Strategies for Low-Income Earners in Nigeria. Sustainability, 14, 2258. https://doi.org/10.3390/su14042258

Okonofua, F.E. (2000) "Adolescent Reproductive Health in Africa: The Future Challenges" *African Journal of Reproductive Health*, 4(1): 7-9

Olatunji, S. A. and Yoade, A. O. (2022) Factors Influencing Residents' Quality of Life in Metropolis Ibadan, Nigeria. Hong Kong Journal of Social Sciences. Vol. 60 Autumn/Winter 2022. Pp. 230 – 240

Olatunji, S. A. (2014) A study of Students' Housing Quality in Ladoke Akintola University of Technology (Lautech), Ogbomoso, Nigeria Journal of environment and earth Science. Vol 4. No. 18. Pp 13 – 18.

Olatunji, S. A. (2018) Spatial Analysis of Residents' Quality of Life in Ibadan Metropolis, Nigeria, Ile-Ife. JOGMA Prints and technology

Omogbai, B.E (2010) "Rain Days and Their Predictability in South-western Region of Nigeria" *Journal of Human Ecology*, 31(3): 185-195