



Title of paper: Factors influencing residential satisfaction within student housing facilities in the near-campus neighbourhood of Samaru Zaria, Northwest Nigeria

DOI: <https://doi.org/10.1108/F-11-2024-0161>

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Abstract: *Purpose*-This study assessed adequacy of housing provided by private developers and landlords in the near-campus studentified neighbourhood of Samaru and adjoining neighbourhoods in Zaria, northwest Nigeria using approaches from residential satisfaction studies. *Design/methodology/approach*-Mixed methods involving a reconnaissance and questionnaire survey of 102 students living near-campus were analysed using descriptive statistics, T-tests and Principal Component Analyses (PCA) in SPSS from Likert-scale ratings of 34 housing attributes. *Findings*-Overall, students were dissatisfied with their housing (mean 2.34/4). Eight factors influence residential satisfaction, namely housing design; facility management and quality of building materials; safety, rules/regulations and cost; social environment; proximity to basic neighbourhood facilities; proximity to urban amenities; basic support services as well as noise control and privacy. Proximity to worship centres (mean 2.79) and privacy (mean 2.74) were the most satisfactory aspects of the housing environment. Proximity to fire service (mean 1.77), police station (mean 1.95) as well as facility management and maintenance (mean 2.00) were most dissatisfactory. *Practical implications*-Private developers need to maintain proximity to neighbourhood facilities, levels of privacy and noise while improving quality of buildings, safety, rules/regulations, cost as well as maintenance and facility management especially within Houses of Multiple Occupation (HMO). *Originality value*-We expand the description of HMO and Purpose-Built Student Accommodation (PBSA) within the mainstream studentification literature to include compounds of rentable rooms or housing units with or without landlords in residence for HMO and medium-sized PBSA accommodating up to a dozen or more suites for students.

Keywords: Facilities, Housing, Near-campus, Residential Satisfaction, Studentification

Journal: Facilities

Publisher: Emerald

Date accepted: 26 October 2025



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Journal:	<i>Facilities</i>
Manuscript ID	f-11-2024-0161.R3
Manuscript Type:	Original Article
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INTRODUCTION

Student housing is a fundamental aspect of overall campus experience due to its multifaceted influence on several student outcomes and the psychosocial development of young adults. Several studies establish the effect quality and condition of housing facilities have on academic performance and learning outcomes (Adama *et al.*, 2018; de Araujo and Murray, 2010; Maina and Aji, 2017; Mbazor, 2021; Owolabi, 2015); socialisation into the urban environment (Franz and Gruber, 2022); health (Kilasho and Ayedun, 2016; Yusuff, 2011); quality of life and wellbeing of students (Keuneke, 2022). Availability and quality of facilities, including student accommodation often determine students' choice of which university to attend (Price *et al.*, 2003).

Despite evidence supporting the importance of student housing on student outcomes, insufficient and inadequate on-campus student housing remains a chronic and acute challenge facing many institutions of higher learning globally. Largely owing to the paradigm shift from industrialisation to knowledge intensive-economies in the 21st Century, massive expansion of Higher Educational Institutions (HEIs) has occurred without requisite physical infrastructure such as insufficient on-campus student housing to support it (Thomsen and Eikemo, 2010). This trend has ensured that

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3 the quality of housing environments inhabited near-campus by a large number of university
4 students has remained under the control and purview of external actors other than HEIs directly
5 responsible for their status as students.
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7 In addition to insufficient and inadequate student hostels, housing experiences of university
8 students living off-campus remain understudied in literature (Gong and Söderberg, 2024). While a
9 large corpus of studies focuses on student housing located on-campus (Adilieme, 2019; Amole,
10 2005, 2009; Kolawale and Boluwatife, 2016; Kowalski, 2022; Toyin Sawyerr and Yusof, 2013),
11 relatively few studies investigate student housing experiences off-campus (Keuneke, 2022)
12 (Gbadegesin *et al.*, 2021). In the case of Ahmadu Bello University (ABU) Zaria, Sagada (2009)
13 outlined the initial process of studentification while Awua-Imande *et al.* (2019) and Okafor (2023)
14 assessed student housing preferences in Samaru. Information remains unavailable regarding the
15 degree to which current housing supply meets housing needs of students in the study area.
16

17 Appraising student housing in neighbourhoods located near university campuses such as ABU is
18 important for students, parents, university management, policymakers and prospective investors
19 (Gbadegesin *et al.*, 2021; Ying *et al.*, 2022). Such appraisals underpin the formulation of robust pro-
20 student housing policies and engagement of Public-Private Partners with management of HEIs
21 (Agava *et al.*, 2018; Thomsen and Eikemo, 2010). Investigating satisfaction and adequacy of
22 student housing ensures better overall school experiences and student outcomes. Satisfied
23 graduates translate to improved school-alumni relationships and better prospects for contributing
24 back into institutional endowments while fostering amicable town-gown collaborations mutually
25 beneficial to institutions and host communities.
26

27 The current study explores this gap in Samaru around ABU main campus employing insights from
28 residential satisfaction approaches. Findings from satisfaction ratings revealed that facility
29 management, quality of housing and proximity to urban amenities were inadequate. We expand
30 descriptions of HMO within the studentification literature to include compounds and tenement
31 buildings accommodating students, other tenants and landlords; housing units and rooms within
32 compounds as well as self-contained studio apartments targeting students. The study also
33 documents medium sized PBSA managed by agents, distinct from large multilevel complexes
34 reported in literature in the global north and other developing countries.
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41 **LITERATURE REVIEW**

42 **Residential satisfaction in off-campus student housing**

43 Residential satisfaction is a multidimensional construct which measures the extent people are
44 happy with their housing environment (Ibem *et al.*, 2018). Subjective evaluations from user
45 satisfaction ratings have been found to be better predictors of satisfaction for housing
46 environments than their objective characteristics (Francescato *et al.*, 2018). In addition, satisfaction
47 reflects housing conditions and can be employed to measure adequacy (Ibem and Alagbe, 2015).
48 Studies on residential satisfaction especially in the Nigerian context employ perspectives from
49 Aspirations Gap/Purposive Approach and Housing Habitability System framework. Aspiration
50 Gap Approach posits that satisfaction depends on how an individual cognitively constructs his/her
51 housing environment depending on self-assessed needs and aspirations. "If the current situation
52 is perceived to be in proximate congruence with a reference situation, an affective state of
53 satisfaction should be manifested" Galster (1987, p. 542).
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Housing Habitability System framework (Onibokun, 1974) on the other hand views resident-based evaluations through four housing environment subsystems namely tenant characteristics, dwelling unit features/services, neighborhood environment and management (Figure 1).

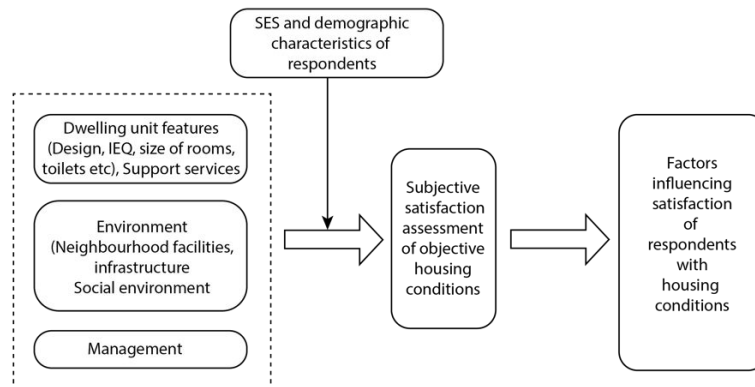


Figure 1: Framework for assessing residential satisfaction. Source: Adapted from Maina *et al.* (2021)

Factors influencing residential satisfaction in off-campus student housing

Physical, social/neighbourhood, economic/management factors moderated by demographic characteristics influence residential satisfaction among students living near-campus (Abdullah *et al.*, 2013; Adama *et al.*, 2018; Azeez *et al.*, 2016).

The physical condition of houses and service facilities dominates literature on factors influencing residential satisfaction for near-campus student housing. Specifically, quality of building materials, age and external appearance significantly influence housing satisfaction (Abdullah *et al.*, 2013; Femi, 2014; Gbadegesin *et al.*, 2021). Low quality building materials and workmanship infer higher wear and tear among young transient student renters who usually stay for a period of one to three years. Deterioration of student housing facilities aided by poor maintenance culture prevalent among landlords significantly worsens conditions and external appearances of housing. This ultimately lowers satisfaction and loyalty. Baron and Kaplan (2011) explained that the quality of building features and facilities directly affected rent, which turned out to be inversely proportional to the distance of student housing from campus. Thomsen and Eikemo (2010) also disclose that spaciousness designs, practical plans/spatial layout, natural light and institutional presence influence residential satisfaction. Conversely, poor housing services such as water supply, sanitary and plumbing facilities lowered satisfaction ratings and health among students (Kilasho and Ayedun, 2016; Yusuff, 2011). The condition and type of toilet facilities likewise impacted satisfaction as students value privacy. Houses which ensure access to private bathrooms, toilets and kitchen facilities are most preferred (Okafor, 2023) as privacy fostered residential satisfaction for students living off-campus across several studies (Hassan, 2020; Ifaturoti, 2017; Ying *et al.*, 2022).

The social environment and interaction with neighbours also play critical roles in the life-trajectories of university students. Many personal and professional lifelong relationships emanate from such interactions, supporting arguments by Franz and Gruber (2022) that student housing be conceptualised as social infrastructure within urban environments. Proximity to basic urban facilities and amenities also influence student satisfaction. Proximity to campus was the most critical factor influencing satisfaction for near-campus student residents, according to Hassan (2020). Proximity to healthcare facilities, finance, retail, municipal services and worship centers also influences residential satisfaction among students (Gbadegesin *et al.*, 2021; Ifaturoti, 2017; Ying *et al.*, 2022).

Facility management and economic factors play key roles in fostering residential satisfaction. According to Gbadegesin *et al.* (2021) landlord/tenant relationships, communication patterns,

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2
3 regulation of student-space ratio and the manner tenancy regulations are enforced all influence
4 satisfaction for student housing. Rent is important at university. Okafor (2023) however reported
5 that although majority of the monthly stipends/income of students in Samaru were generally low
6 (10,000-20,000 Nigerian Naira, NGN), majority occupied rooms with rents of 120,000 NGN per
7 annum and above. The study concluded that irrespective of monthly stipends received, many
8 students usually afford housing once it meets their needs. Facility management includes general
9 cleanliness, security, waste disposal, maintenance and other municipal related functions. How well
10 landlords ease the stress in dealing with these issues directly affects satisfaction with off-campus
11 student housing.

12
13 Demographic factors classify human populations into categories which can be employed as a
14 means of characterisation (Maina, 2021). In the context of off-campus student housing, residency
15 or length of stay, gender as well as house-type influence residential satisfaction. According to
16 Gbadegehin *et al.* (2021) most student renters stay for one to two years, illustrating a high
17 occupancy volatility rate. A similar trend of up to three years was reported by Okafor (2023).
18 Results on gender are however mixed and likely affected by proportions of both genders in the
19 samples examined.

20
21 Regarding typologies, literature on studentification describes student housing in terms of HMO
22 and PBSA largely in the global north (Ackermann and Visser, 2016). HMO generally comprise
23 low-quality, high-density houses converted for co-habitation by multiple young, single, unrelated
24 individuals in socio-spatially segregated neighbourhoods previously occupied by families
25 (Hubbard, 2008; Kinton *et al.*, 2018; Sage *et al.*, 2012). PBSA are highly-regulated multilevel
26 complexes with convenience services such as laundromats, shops and restaurants for students
27 managed by property developers (Ackermann and Visser, 2016; Gong and Söderberg, 2024). In
28 the global south, He (2015) presented a socially-integrated description of HMO where students
29 share residences and neighbourhood facilities with their landlords in China. In Nigeria, students
30 living off-campus often reside alongside landlords and members of the local community
31 (Adebowale and Simpeh, 2023), family houses inclusive (Okafor, 2023). Maina *et al.* (2025)
32 reported that satisfaction was highest within family houses and lowest within PBSA among
33 students living off-campus in Kaduna State, Nigeria.

34 35 36 37 **METHODOLOGY**

38 Data was collected first through a **reconnaissance** study followed by a questionnaire survey within
39 Samaru, Zango, Hayin Mallam, Palladan, Emanto and Graceland. Convenience sampling was
40 adopted as the actual population of students residing off-campus in Samaru is unavailable (Awua-
41 Imande *et al.*, 2019). Although this limitation may have produced a skew in favour of respondents
42 in 400L (Table 1), final year students are better equipped to provide objective feedback regarding
43 housing at the end of their studies. 170 questionnaires were distributed, 100 in hardcopy and 70
44 with links to an online version of the questionnaire. 102 (60%) were retrieved, 79 (47%) hardcopies
45 and 23 (13%) online responses. With digital technology, online surveys reduce errors in data entry
46 and collation. Reminders through personalised messages improved low online retrieval rates.

47
48 Three sections of the questionnaire captured demographic information, housing conditions and
49 perceptions of residential satisfaction regarding 34 variables from previous studies (Ibem *et al.*,
50 2018; Maina and Robert, 2025). Demographics included institution, gender, age, level, monthly
51 stipends, annual rent, length of residency, marital and employment status, neighbourhood and
52 class of degree. The second section requested data on objective housing characteristics and living
53 conditions including house type, water and electricity supply as well as construction materials.
54 Results from these two sections are presented as frequencies and percentages in Tables 1 and 2.

55
56 Finally, respondents were requested to rate their satisfaction with 34 housing attributes using 4-
57 point Likert scales, 1 being very dissatisfied and 4 very satisfied. A 4-point Likert scale was
58 employed to reduce accumulating responses around neutral mid-point values of 3.00 as observed
59 in previous residential satisfaction studies in northern Nigeria (Maina *et al.*, 2021). Two kinds of
60

analyses were conducted on the data in SPSS. First, descriptive summaries and T-tests compared mean values of the 34 variables with 2.50 or the mid-point of a 4-point Likert scale in Table 3. Mean values significantly lower than 2.50 were dissatisfactory. Second, PCA using Varimax with Kaiser normalization reduced the 34 variables into factors (Table 4). Kaiser-Meyer-Olken (KMO) measure of sampling adequacy was 0.798 above the minimal expected value of 0.5 (Field, 2013) while Bartlett's test of sphericity was significant (0.000), inferring that data was adequate for further analyses. Cronbach's alpha for the 34 variables was 0.917 above the minimum 0.70 expected for exploratory studies (Field, 2013). Further analyses for differences between satisfaction for components and housing typologies are presented in Tables 5 and 6.

RESULTS AND DISCUSSION

Results

Respondents' profile in Table 1 confirms reports from previous studies (Awua-Imande *et al.*, 2019; Sagada, 2009). On average, respondents were students of ABU (96%), in 400 level (70%), male (61%), aged 18-24 (63%), single (97%), unemployed (89%) with monthly stipends around the minimum wage of 33,000 NGN (48%) affording monthly rents of up to 20,000 NGN (47%). The latter reflects observations that students are able to fund suitable accommodation in a manner that is not commensurate with their monthly allowances through parents and guardians (Okafor, 2023). Academic performance measured by class of degree, also conforms to results expected of students residing off-campus from previous studies in Nigeria (Gbadegesin *et al.*, 2021; Ifaturoti, 2017) as 52% were within the second-class degree bracket. This is also true for length of stay of up to 3 years (68%) in the current accommodation. Half of the sample reside in Samaru Extension. 59% were dissatisfied with their housing.

Table 1: Demographic profile of respondents (n 102)

Variable	Sub category	Frequency	%
Institution	Ahmadu Bello University	98	96%
	Others (NILEST)	4	4%
Level	100L	2	2%
	200L	11	10%
	300L	4	4%
	400L	71	70%
	500L	7	7%
	Postgraduate (PGD, MSC, MA, PhD)	7	7%
Gender	Male	62	61%
	Female	39	38%
	Missing	1	1%
Age in years	<18	3	3%
	18-24	64	63%
	25-29	30	30%
	30-34	5	4%
Marital status	Single	99	97%
	Married	3	3%
Employment status	Unemployed	91	89%
	Employed	9	9%
	Missing	2	2%
Monthly stipends in NGN	Up to 33,000	48	48%
	33-80,000	25	24%
	81-149,000	8	8%
	150,000+	8	8%
	Missing	13	12%
Rent per annum NGN	Up to 60,000 (max. 5,000/month)	8	8%
	61,000-120,00 (max. 10,000/month)	22	22%
	121,000-240,000 (max. 20,000/month)	48	47%
	241,000-480,000 (max. 40,000/month)	15	15%
	More than 480,000 (above 40,000/month)	2	2%

Variable	Sub category	Frequency	%
Academic performance	Missing	7	6%
	3rd class	2	2%
	2nd Class Lower	29	28%
	2nd Class Upper	24	24%
	1st Class	8	8%
Length of stay in years	Missing	39	38%
	0-1	36	35%
	1-3	33	33%
	3-5	14	14%
	5-9	11	10%
	9+	4	4%
Neighbourhood	Missing	4	4%
	Samaru Extension	50	50%
	Hayin Dogo	12	11%
	Hayin Danyaro	10	10%
	Silver Jubilee Quarters	3	2%
	Zango, Hayin Mallam, Palladan	7	7%
Mode of data collection	Emanto, Graceland	20	20%
	Hardcopy	79	77%
Residential satisfaction	Online Google form	23	23%
	Satisfied ($M \geq 2.50$)	42	41%
	Dissatisfied ($M < 2.50$)	60	59%

Housing characteristics and conditions

Three housing typologies based on spatial organisation, management and occupancy type were identified within the study area. These are family houses, HMO and PBSA. Characteristics of the last two typologies deviate slightly from commonly held descriptions documented in the studentification literature. Usually bungalows, family houses frequently comprise owner-occupied, single dwellings within walled compounds accommodating a family. Open spaces serve as front, side and backyards (Figure 2). HMO, usually compound houses or tenement buildings in the study area as opposed to converted family houses in literature are categorised in two main groups. First are compounds comprising rooms occupied by landlords and tenants who share basic service facilities including baths, toilets, kitchens and water supply. The second group consists of rooms or dwellings accommodating tenants managed by landlords or agents who reside elsewhere out of the compound. Several variants of this group exist. There are compounds or tenement houses containing separate bungalows or rooms with tenants managed externally by either the landlord or his agent (Figure 3). Tenants in the aforementioned groups usually include students and often times, families. The other variant of this sub-group of HMO are self-contained studio apartments targeting student occupancy which could also accommodate non-students willing to pay relatively higher rents charged by landlords through agents as well as abide by terms and conditions of residency. These are hybrids between HMO and PBSA (Figure 4). Room layouts are spatially similar to PBSA in the study area which afford privacy and convenience but are usually not occupied by families. The occupancy type is more flexible than strict PBSA would allow. PBSA on the other hand are a fairly recent development for better quality accommodation exclusively targeting students willing to pay high premium for good residences off-campus (Figure 5). In the current study, PBSA are privately-owned hostels managed through agents. These usually accommodate not more than 100 self-contained, single studio, self-contained apartments with basic services such as water supply in the form of boreholes or over-head storage tanks with on-site parking where limited spaces afford. Terms and conditions of residency include curfews, usually between 10-11pm. In cases where PBSA are gender specific due to cultural and religious practices, restrictions for non-entry of the opposite gender, especially males, apply. Large multilevel complexes managed by registered hostel chains or organised developers are rare and virtually non-existent in the study context. Students' needs for laundry and other kinds of

conveniences are usually catered to within neighbourhoods, local markets or around PZ and Sabon Gari about 30 minutes away.

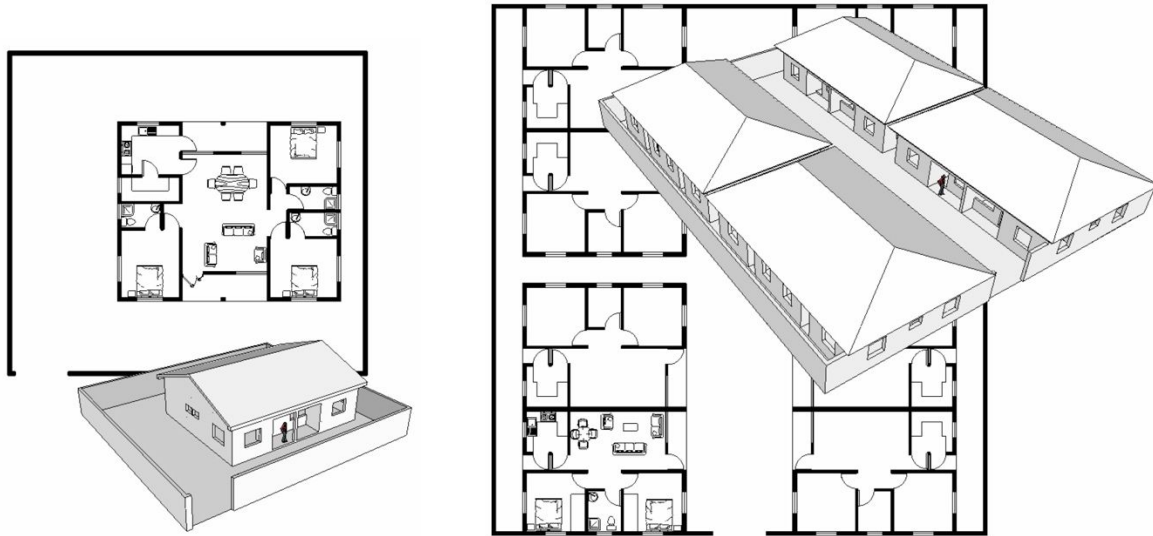


Figure 2: Family house. Source: Authors Figure 3: HMO-rentable housing units within a compound. Source: Authors

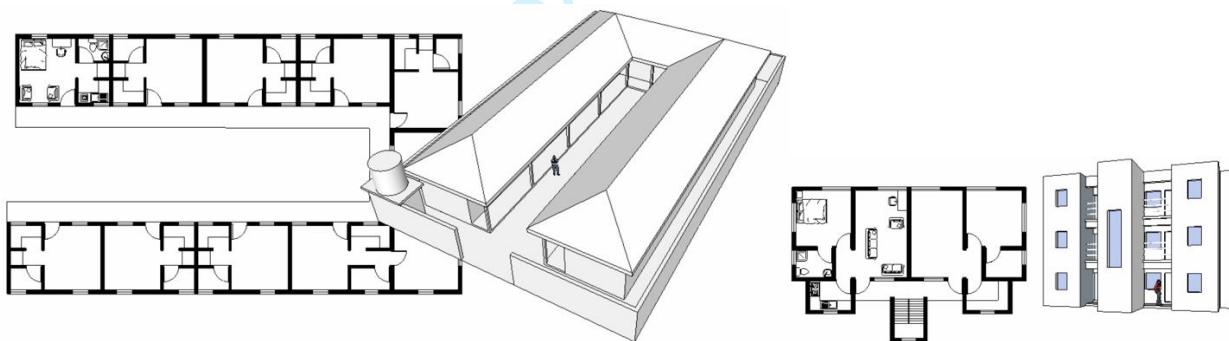


Figure 4: HMO-Rentable suites within a compound. Source: Authors Figure 5: PBSA. Source: Authors

Houses and rooms within compounds account for 45% of the sample, followed by PBSA (Table 2). Boreholes dominate water supplied to three quarters of the sample. Public power supply remains the predominant means of electricity provision (95%). Respondents generally occupy houses constructed and finished with concrete or durable materials. These include cement blocks (85%), ceramic tiled floors (62%), ceilings of mineral boards (50%), roofs constructed with long-span aluminium sheets (59%), external doors of fabricated steel (46%) as well as aluminium framed windows, whether sliding or casement (65%). This is an improvement in the area previously described as a slum (Sagada, 2009) supporting the observation that not all impacts of studentification are negative (Ackermann and Visser, 2016; Adebowale and Simpeh, 2023).

Table 2: Housing characteristics from the sample

Variable	Sub category	Frequency	%
Housing typology	Family house	10	10%
	Landlord and rentable rooms-HMO	13	13%
	Houses/rooms within a compound-HMO	45	45%
	Purpose built student accommodation	30	29%
	Missing	4	3%
Predominant source of water supply	Borehole	76	75%

Variable	Sub category	Frequency	%
Predominant source of electricity supply	Pipe-borne public water supply	10	9%
	Well	8	8%
	Water vendors	8	8%
Walls	KEDCO/Discos	97	95%
	Generator	4	4%
	Solar panels	1	1%
Floor finish	Cement blocks	87	85%
	Bricks	9	8%
	Compressed earth bricks	6	7%
Ceiling	Ceramic tiles	63	62%
	Cement screed	31	30%
	Linoleum	4	4%
	Terrazzo/marble etc	4	4%
Roof	Ceiling board/mineral fibre	51	50%
	Polyvinyl chloride (PVC)	24	24%
	Plaster of Paris	10	10%
	Asbestos	5	5%
	Cardboard	5	5%
	Wood	3	2%
	Acoustic tiles	1	1%
	None	1	1%
	Missing	2	2%
	External doors	Longspan aluminium sheets	59
Galvanised iron sheets		29	30%
Asbestos		9	8%
Coated ceramic villa tiles		1	1%
Thatch		1	1%
Missing		3	2%
Windows	Fabricated steel	47	46%
	Iron sheets on wooden frames	21	20%
	Factory-made security steel doors	19	19%
	Wood	10	10%
	Plywood panel	4	4%
	Missing	1	1%
Mosquito netting	Aluminium sliding	47	46%
	Aluminium casement	19	19%
	Iron sheets on wooden frames	16	15%
	Wood casement	6	6%
	Other	7	7%
Burglary proofing	Missing	7	7%
	Yes	74	73%
	No	27	26%
Fencing	Missing	1	1%
	Yes	75	74%
	No	27	26%
	Yes	87	85%
	No	15	15%

Majority of respondents occupy houses with mosquito netting (73%), burglary proofing (74%) and fencing (85%) in Table 2. Mosquito nets on windows and door openings illustrate basic preventive measures for the control of malaria vectors endemic in the study area. The high proportion of burglary proofing and fenced houses indicate prevention against theft. Fencing serves as visual and physical barriers satisfying sociocultural and religious requirements of privacy prevalent across northern Nigeria.

Overall, respondents were dissatisfied with their housing as mean satisfaction score (MSS) of 2.34 was significantly different from the mid-point value of 2.50 (Table 3). None of the variables achieved MSS of 3.00 which denotes absolute satisfaction. Students were significantly satisfied with proximity to worship centres (2.79) and privacy (2.74). Proximity to markets, shopping and

financial facilities notably Automated Teller Machines (ATMs), banks and Point of Sale or POS (2.58), relationship with neighbours, social networks (2.56) and public transport (2.54) were also satisfactory.

Table 3: Descriptive statistics and One-way T test* of housing environment attributes

Housing environment attributes	Mean	T	Sig. (2-tailed)
Proximity to Worship centres	2.79	3.283	0.001
Privacy	2.74	2.465	0.015
Proximity to Markets/shopping facilities	2.58	0.973	0.333
Proximity to ATM/Banks/POS facilities	2.58	0.864	0.390
Relationship with neighbours/social network	2.56	0.835	0.406
Public transportation	2.54	0.471	0.638
Rules/regulations of residency	2.49	-0.129	0.898
Proximity to Healthcare facilities	2.48	-0.250	0.803
Size of bedrooms	2.47	-0.353	0.725
Quality of natural ventilation	2.47	-0.348	0.728
Quality of natural light	2.45	-0.626	0.533
External appearance of the house	2.44	-0.708	0.481
Internet/communication networks	2.42	-0.835	0.406
Floor planning and spatial configuration	2.41	-1.050	0.296
Noise levels	2.39	-1.165	0.247
Security and general safety	2.38	-1.447	0.151
Water supply	2.35	-1.698	0.093
Size of toilets/bathrooms	2.34	-1.917	0.058
Quality of windows, doors, fittings	2.34	-1.815	0.073
Sanitary/plumbing conditions	2.34	-1.975	0.051
Refuse/solid waste management system	2.33	-1.907	0.059
Suitability of location to lifestyle	2.28	-2.567	0.012
Quality of building materials	2.25	-2.987	0.004
Quality of neighbourhood activities	2.25	-2.904	0.005
Rent/cost of housing	2.25	-3.229	0.002
Cleanliness/environmental hygiene	2.23	-3.119	0.002
Electricity/power supply	2.22	-3.163	0.002
Level of crime and anti-social behaviour	2.20	-3.491	0.001
Proximity to Workplaces	2.17	-4.098	0.000
Proximity to Recreational/Sports facilities	2.14	-4.167	0.000
Size of storage spaces	2.01	-5.160	0.000
Facility management and maintenance	2.00	-6.247	0.000
Proximity to nearest Police Station	1.95	-6.625	0.000
Proximity to nearest Fire Service	1.77	-9.521	0.000
Mean Satisfaction Score MSS	2.34	-3.617	0.000

*Test score: 2.50

Several variables related to the design, Indoor Environmental Quality (IEQ), support services such as water supply, rules and residency regulations and a few other urban amenities notably proximity to urban healthcare facilities record MSS not significantly lower than 2.50 (Table 3). MSS for proximity to urban amenities as well as facility management and maintenance were equal to or lower than 2.00. These occupy ranges between dissatisfied to very dissatisfied. Sizes of storage spaces (2.01) and quality of building materials (2.25) were the only design and construction-related variables with significantly low satisfaction ratings.

Table 4 presents results from the PCA. Eight components accounting for about 68% of the total variance were extracted. One variable, proximity to recreation and sports facilities failed to load. The first component, accounting for approximately 14% of the total variance contains variables describing the design of housing such as quality of natural ventilation, light, windows, doors and fittings, sizes of bedrooms, toilets/baths, storage and external appearance of the house. The second component is associated with facility management and structural quality of housing and

accounts for about 11% of the variance. The third addresses safety, level of crime, rent and cost, rules and regulations accounting for 9% of the variance. The fourth describes the social environment comprising relationship with neighbours, quality of neighbourhood activities and suitability of location to lifestyle. All four components display high reliability with Cronbach values above 0.80 in Table 4.

Table 4: PCA of housing environment attributes

Components	Loading	Eigen value	% Variance	Cum. Variance
#1 Design of houses/hostels (α 0.859)		4.67	13.732	13.732
Quality of natural ventilation	0.769			
Size of bedrooms	0.729			
Floor planning and spatial configuration	0.697			
Quality of natural light	0.661			
Quality of windows, doors, fittings	0.634			
External appearance of the house	0.565			
Size of toilets/bathrooms	0.550			
Size of storage spaces	0.517			
#2 Facility management and structural quality (α 0.839)		3.594	10.572	24.304
Cleanliness/environmental hygiene	0.738			
Facility management and maintenance	0.733			
Sanitary/plumbing conditions	0.709			
Refuse/solid waste management system	0.610			
Quality of building materials	0.564			
#3 Safety, regulations and cost (α 0.839)		3.201	9.414	33.717
Level of crime and anti-social behaviour	0.778			
Security and general safety	0.777			
Rules/regulations of residency	0.777			
Rent/cost of housing	0.662			
#4 Social environment (α 0.826)		2.728	8.023	41.74
Quality of neighbourhood activities	0.782			
Suitability of location to lifestyle	0.755			
Relationship with neighbours/social network	0.711			
#5 Proximity to basic neighbourhood facilities (α 0.784)		2.721	8.002	49.742
Proximity to ATM/Banks/POS facilities	0.825			
Proximity to Markets/shopping facilities	0.808			
Proximity to Healthcare facilities	0.671			
Proximity to Worship centres	0.469			
Public transportation	0.459			
#6 Proximity to urban amenities (α 0.776)		2.555	7.515	57.257
Proximity to nearest Fire Service	0.810			
Proximity to nearest Police Station	0.786			
Proximity to Workplaces	0.715			
#7 Basic support services (α 0.689)		1.956	5.752	63.009
Internet/communication networks	0.798			
Electricity/power supply	0.547			
Water supply	0.474			
#8 Noise and privacy (α 0.705)		1.559	4.584	67.593
Noise levels	0.792			
Privacy	0.557			
<i>Did not load on any component</i>				
Proximity to Recreational/Sports facilities				

Four components record lower reliability, from 0.689 to 0.784. Proximity to basic neighbourhood facilities and urban amenities, basic support services as well as noise and privacy record variances of 8%, 7.5%, 5.75% and 4.58% respectively. T-tests in Table 5 revealed that only MSS for proximity to basic neighbourhood facilities (2.37), noise and privacy (2.56) as well as the social

environment (2.37) were not significantly different from 2.50. All others were significantly different from 2.50, classified dissatisfactory.

Table 5: T-tests for means of components

Component	Rank	Mean	SD	T	Mean Diff.	Sig. (2-tailed)
Proximity to basic neighbourhood facilities	1	2.59	0.626	1.517	0.094	0.132
Noise and privacy	2	2.56	0.835	0.771	0.063	0.442
Social environment	3	2.37	0.695	-1.947	-0.133	0.054
Design of houses/hostels	3	2.37	0.606	-2.204	-0.132	0.030
Safety, regulations and cost	5	2.33	0.665	-2.569	-0.169	0.012
Basic support services	5	2.33	0.715	-2.400	-0.169	0.018
Facility management and structural quality	7	2.23	0.657	-4.126	-0.268	0.000
Proximity to urban amenities	8	1.96	0.673	-8.042	-0.535	0.000

*Test score: 2.50

Mean values for family houses and PBSA did not significantly differ from 2.50, unlike those for HMO where MSS significantly differed from the mid-point value of 2.50 (Table 6).

Table 6: T-tests for residential satisfaction based on house types

Component	Rank	Mean	SD	T	Mean Diff.	Sig. (2-tailed)
Family house	1	2.45	0.539	-0.310	-0.053	0.763
Purpose built student accommodation-PBSA	2	2.46	0.277	-0.774	-0.039	0.445
Rentable rooms/houses in a compound-HMO	3	2.30	0.456	-3.009	-0.204	0.004
Landlord +rentable rooms/houses-HMO	4	2.15	0.517	-2.463	-0.353	0.030

*Test score: 2.50

Discussion

Although housing conditions have improved over time (Table 2), inadequacies exist in meeting students' needs and requirements (Table 3). Consequently, respondents were dissatisfied with housing facilities and the environment. While houses were constructed of concrete and other durable materials, the quality and management of said facilities are deficient, contributing to low satisfaction especially for HMO (Table 6). This result is consistent with findings in literature as HMO are noted for lower housing quality and by implication, low satisfaction compared to PBSA (Ackermann and Visser, 2016). Overall, results illustrate that residential satisfaction approaches reflect housing situations and [in]adequacy in near-campus neighbourhoods. Although tested on a sample of students in the current study, this approach offers promising prospects for comparing perceptions of other categories of near-campus residents.

Not all aspects of the near-campus housing environment were dissatisfactory. Proximity to worship centres was rated fair, as were privacy, proximity to markets, shopping and banking facilities, social network and public transportation. Samaru and other neighbouring areas around ABU main campus are liberally interspersed with mosques and churches belonging to different denominations and sects within easy walking distances, a reflection of the general religious nature of Nigerians (Maina *et al.*, 2025). Ifaturoti (2017) reported high satisfaction ratings for proximity to worship centres by students in Lagos. Privacy is valued by students (Okafor, 2023), males particularly so (Femi, 2014). Recall that the current sample is predominantly male. Apart from privacy, proximity to neighbourhood facilities was rated high, ranking it first among the eight components in Table 4. Streets in the study area are usually lined with corner shops, chemists and healthcare outlets offering goods and services, supporting Adebowale and Simpeh (2023) who explained that residents' dissatisfaction with negative aspects of studentification was offset by proceeds from commercial activities catering to student needs. The Central Bank of Nigeria's (CBN) cashless and internet banking policy further encouraged POS businesses within many neighbourhoods in the study area. Facility management notably cleanliness, environmental

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3 hygiene, sanitary and plumbing conditions, solid waste disposal as well as quality of building
4 materials are inadequate, requiring policy regulation in the study area. In addition, many urban
5 amenities remain out of easy proximity to students due to long distances from the Central Business
6 District (CBD). The noticeable absence of open green areas for relaxation and recreation likely
7 accounts for failure of this variable to load in the PCA. Large open football fields frequently located
8 within premises of primary and secondary school hardly suit frequent use by urbane university
9 students in the study area.
10

11 12 **Implications of the study**

13 *Practical implications:* inadequacy of housing quality and facility management implies that achieving
14 satisfaction in near-campus environments is difficult in a free, unregulated market as illustrated by
15 results from this study. While positive proximity to worship centres, privacy, social networks and
16 good neighbourhood relations attracts students seeking accommodation in Samaru, demand for
17 high quality housing inadequately supplied by landlords and private developers and poor
18 infrastructure fosters dissatisfaction especially within HMO which dominate the sample.

19 *Social implication:* PBSA expected to provide better quality accommodation may evolve as isolated
20 student enclaves within the socio-spatially integrated neighbourhoods, further increasing levels of
21 crime and anti-social behaviour.
22

23 *Research implications:* ratings for social networks and neighbourhood relations deviated from
24 observations in the studentification literature. When adequately investigated in future studies,
25 processes through which social networks are mediated in the study area can serve as models for
26 reducing clashes and problems frequently observed between students and other residents in
27 studentified neighbourhoods. The emergence of PBSA in the study area also presents areas to
28 contextually investigate studentification and gentrification processes in a traditional Sub-Saharan
29 setting in the global south.
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32 **Conclusions and recommendations**

33 Adequacy of housing provided by private developers and landlords in near-campus
34 neighbourhoods adjoining ABU main campus was assessed using residential satisfaction
35 approaches. Three housing categories were observed namely family houses, HMO or compounds
36 accommodating landlords and tenants including students and those without landlords as well as
37 PBSA. Students were dissatisfied with the housing environment particularly proximity to urban
38 amenities such as fire service, police station and workplaces accessible around or within campus
39 grounds. Facility management was poor especially for cleanliness, environmental hygiene,
40 maintenance, sanitary and plumbing conditions, solid waste disposal and building materials. Private
41 developers and landlords have performed fairly in terms of proximity to basic neighbourhood
42 facilities as well as privacy and noise while students and residents seem to have done well in terms
43 of social networks and communication. Results illustrate that residential satisfaction approaches
44 reflect housing conditions and offer promising prospects for future near-campus evaluations
45 especially when comparing housing situations between different categories of residents within
46 near-campus neighbourhoods.
47

48 Recommendations target private developers, local government and legislative officials, ABU
49 management and researchers. Private developers need to improve upon quality of construction as
50 well as facility management of their properties while government and legislative officials will need
51 to improve urban amenities and infrastructure around Samaru as these attract economic
52 sustainability. It is also important for the management of the university to engage stakeholders
53 including students, community groups, local authorities and private developers towards developing
54 near-campus student housing policies with minimum standards for quality of construction and
55 services, rules and regulations as well as acceptable behaviour expected of students and community
56 residents. Such policies should also consider minimum standards for the design of residential areas
57 around campuses including plot sizes, quality of roads and other urban infrastructure. Roads in
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the study area were very poor. Future research will be instrumental in studying housing conditions in other near-campus neighbourhoods as results from this study are based on a single campus using a convenient cross-sectional sample of students. Results can therefore not be generalised. Future studies should also consider the effect of housing conditions on academic outcomes, quality of life, health and wellbeing as well as neighbourhood conditions within similar environments.

Acknowledgement

Support for this study was provided by Tertiary Education Trust Fund (TETF/DR&D/UNI/ZARIA/IBR/2024/Batch 8/04 and TETF/ES/DR&D-CE/NRF2024/CC/EHU/00036/VOL.I). Authors are grateful to respondents and two anonymous reviewers whose constructive criticism greatly improved the final version of the manuscript.

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Facilities

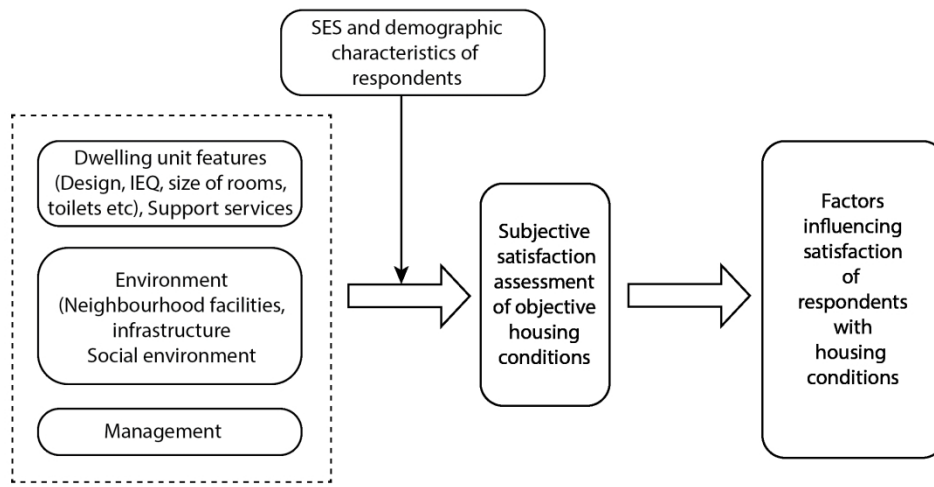


Figure 1: Framework for assessing residential satisfaction. Source: Adapted from Maina (2021a)

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Figure 2: Family house. Source: Authors

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Figure 3: HMO-rentable housing units within a compound. Source: Authors

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Figure 4: HMO-Rentable suites within a compound. Source: Authors

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Figure 5: PBSA. Source: Authors

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