Full paper

International Journal of Real Estate Studies

INTREST

Correlation between Demographic Characteristics and Building Material Preferences of Civil Servant in Abuja

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Article history: Received: *22 January 2025* Received in revised form: *3 May 2025*
Accepted: *5 May 2025* Published online: *30 June 2025*
DOI: https://doi.org/10.11113/intrest.v19n1.412

Abstract

Building material preferences is an aspect of housing preference that has received very little attention from researchers over the years. Materials used in buildings are a function of their availability and suitability, as well as different demographic characteristics. It is crucial for stakeholders in housing provision to understand the building material preferences of individuals based on their demographic characteristics. Majority of governments' previous housing projects were targeted to workers but failed due to the lack of prior study of their housing preferences. Therefore, this study seeks to assess the links between demographic characteristics and building material preferences among Federal civil service workers in Abuja, Nigeria. The survey method was adopted in this study, and data were collected using structured questionnaire. The population of the study was the Federal civil service workers in all the Federal Ministries in Abuja, and a sample size of 2,133 was gotten out of 40,884 sample frame using Slovin's formula. The respondents were sampled using simple random sampling technique, and the data collected were analysed using both descriptive and inferential statistics analysis methods. The findings of the study show that most of the correlations are weak ($|R| < 0.2$), indicating minimal practical significance, despite statistical significance. Preferences for window material and type of door show relatively consistent significant associations across multiple variables. Significant p-values indicate patterns worth investigating further, but the weak R-values highlight that other factors likely have stronger influences on material preferences. The study recommends that further investigation should be conducted on the interrelationship between building material preferences and demographic attributes.

Keywords: Building materials, Demographic characteristics, Housing provisions, Housing preferences, Workers' housing.

1.0 INTRODUCTION

Housing is one of the most essential components of life, which provides shelter, safety, warmth, and a place to rest (Henilane, 2016). Housing preference and choice are becoming increasingly popular, both as a means of projecting future trends in preference and choice as well as evaluating historical preferences and choices (Jansen et al., 2011). According to Rahadi et al. (2015), housing preference and choice continue to be heavily researched as an area of interest to scholars in various and numerous disciplines.

Preference is the response to decision-making on several alternatives or varieties (Triyuly, 2010). In housing literature, preference and choice are used as synonyms or as close relatives (Zinas & Jusan, 2012), and an appropriate combination of preferences creates a quality living environment (Jansen, 2011). According to Jansen et al. (2011), housing preference refers to the relative attractiveness of an object, whereas home choice refers to the actual behaviour of the property buyer. According to Kim (2020), preference and choice have been mostly used as if they are identical, yet they are not, although they are "somewhat" related.

Thus, housing preference generally reveals how consumers prioritise the aspect of housing based on taste. Hence, extensive discussions have focused on various factors that significantly influence people's preferences and housing decisions. These factors are both intrinsic (cost and size) and extrinsic (for example, exterior design and space), neighbourhood, and other locational factors (Opoku & Muhmin, 2010). One of the reasons for the diversity in preferences is that housing attributes vary across locations and social contexts (Opoku & Muhmin, 2010), and it is difficult to generalise results of research, and study of preferences in specific locations is necessary (Jansen et al., 2011).

Psychologists view individual wants and needs as unique because of varying experiences, perceptions, beliefs, and purposes. This also holds for housing preferences, which are goal- and value-oriented in nature (Strzalka, 2019). But there is yet commonality in the preferences and needs of certain groups who may have similar experiences, beliefs, and perceptions (Strzalka, 2019). The validity of housing preference study is contingent on population specific. However, there has been limited research on the housing preferences of government workers in Nigeria. This is a segment of population that has similar experiences, shared housing values, and common housing requirements, based on their job demands and unique employers. Majority of governments' previous housing projects that were targeted at this population, which constitutes a substantial part of the workforce, failed due to the lack of prior study of their housing

preference. Therefore, a preference study of this category of citizens would go a long way in helping governments at all levels and housing experts in formulating policies that will engender a robust housing market in the country. It is on this basis that the present study seeks to analyse the links between socioeconomic and cultural characteristics and building material preferences among Federal civil service workers in Abuja, Nigeria.

■2.0 LITERATURE REVIEW

Housing, as an amalgamation of different elements such as tenure, size, style, quality, materials, and (relative) location, forms a complex entity (Ibrahim, 2024). Given that dwellings are composed of multiple characteristics, households have to make trade-offs and compromises when deciding on housing options. The choice of a particular housing and its associated characteristics is dependent on the specific needs and preferences of households, as well as the limitations imposed by available resources and the conditions within the housing market (Ekta & Vardhan, 2024). Olanrewaju and Woon (2019) state that income, among other factors, is important, while non-financial determinants, including location, security, and building, are significant. Also, one of the vital elements of housing preferences is housing location (Kam, Lim, Al-Obaidi & Lim, 2018). According to Kam et al. (2018), neighbourhood is a significant factor that influences housing and its associated characteristic preferences. Also, one of the important determinants of housing preferences is housing size (Al-Nahdi, Ghazzawi, & Bakar, 2015). As a family grows, its members require more space and additional rooms in the house. Economic factors such as employment, housing prices, income, and expenditure play a crucial role in determining rental affordability (Ekta & Vardhan, 2024). Amenities such as day care, malls, and security are also important factors of affordable housing choices (Singla & Bendigiri, 2019). Additionally, environmental factors such as waste management, energy efficiency, materials used in construction, and noise pollution contribute to sustainable housing choices for affordable rentals (Ekta & Vardhan, 2024). Waddell (2018) highlights the importance of understanding socioeconomic factors to inform urban policies that reduce segregation and enhance access to amenities.

Finding work and becoming an employee is part of the life-course career. This particular career may interact with other careers since, during working age, some people may also start to find a partner and start their family career and housing career. During this stage, some factors affecting choices such as resources, restrictions, opportunities, and constraints may interact with the economic, institutional, social, and demographic conditions and influence housing preference and choice of workers.

Building material preference is an aspect of housing preference that has received very little attention from researchers over the years. The materials used in buildings depend on their availability and suitability, as well as various socioeconomic and cultural characteristics across different regions of the country. Among some tribes, such as the Yoruba, or regions of the country, wood-based housing is considered inferior (Davies et al., 2002) and can even be regarded as a material associated with low social status, while in other cultures, such as the Hausa and parts of Igbo, using wood as a building material is strong.

Previous studies have established that there are connections between culture and building material preferences (Craig et al., 2017). Æro (2006) found that there are relationships between culture, residential choice, and lifestyle perspective. Vasanen (2012) believes that familiarity influences the choice of building materials. Various research has revealed that relationship exists between preferences, social expectations, and the belief that the exterior of a house tells much about the owner of the house (Hoibo et al., 2018). Hauge and Kolstad (2015) suggest that building materials used in a house may have different meanings to people from different cultural backgrounds. Generally, people of different regions with different material customs may have different material preferences.

According to Rahadi et al. (2015), housing preference and choice continue to be heavily researched as an area of interest to scholars in various and numerous disciplines, however, little research has been done on building material preferences in relation in the context of socioeconomic and cultural characteristics of workers.

As stakeholders in housing provision, architects, urban planners, developers, policymakers, the government, and construction companies plan for future housing, it is very essential that they understand the housing and building material preferences of people, especially with regard to their socioeconomic and cultural characteristics.

To this end, building material preferences in this study is based on seven (7) variables, and they are floor material, wall material, roof material, ceiling material, window material, door material, and wall finishes.

■3.0 METHODOLOGY

The survey method was adopted in this study, and data were collected using structured questionnaire. The population of the study was the Federal civil service workers in all the Federal Ministries, excluding their parastatals (see Table 1) in Abuja. This category of workers is at the end of the continuum in the hierarchy of Federal government workers and suffers problems of housing more than any other workers in Abuja. The sample frame is the total workers in all the Federal Ministries in Abuja, which is 40,884, and the sample size has gotten to be 2,133 (see Table 1), using Slovin's formula ($n = N/1 + N (e)^2$). The study employed simple random sampling technique. The demographic data collected was analysed using descriptive statistics, while Spearman's rank (rho) correlation analysis was used to examine the relationship between demographic characteristics and the building material preferences of the respondents.

Table 1 Sample size

S/N	Federal Ministries in Abuja	Estimated Number of Staff	Sample Size at (95%) Confidence Level using Slovin's Formula	25% of the Sample Size (Due to Large Value)
1	Federal Ministry of Agriculture and Rural Development	1756	325	81
2	Federal Ministry of Aviation	1432	312	78
3	Federal Ministry of Commerce and Tourism	1510	316	79
4	Federal Ministry of Communications	1602	320	80
5	Federal Ministry of Defense	1508	316	79
6	Federal Ministry of Education	1708	324	81
7	Federal Ministry of Environment	1398	311	78
8	Federal Ministry of Federal Capital Territory	1221	301	75
9	Federal Ministry of Finance	1572	318	80
10	Federal Ministry of Foreign Affairs	1369	309	77
11	Federal Ministry of Health	1701	323	81
12	Federal Ministry of Industries, Trade and Investment	1565	318	80
13	Federal Ministry of Information and Culture	1498	315	79
14	Federal Ministry of Interior	1467	314	79
15	Federal Ministry of Justice	1385	310	78
16	Federal Ministry of Labour and Employment	1521	316	79
17	Federal Ministry of Petroleum Resources	1682	323	81
18	Federal Ministry of Niger Delta Affairs	1305	306	77
19	Federal Ministry of Science and Technology	1499	315	79
20	Federal Ministry of Solid Minerals	1381	310	78
21	Federal Ministry of Special Duties	1297	305	76
22	Federal Ministry of Transportation	1582	319	80
23	Federal Ministry of Water Resources	1557	318	80
24	Federal Ministry of Women Affairs	1206	300	75
25	Federal Ministry of Power, Works and Housing	1810	327	82
26	Federal Ministry of Youth and Sports	1640	321	80
27	Federal Ministry of Budget and National Planning	1712	324	81
	Total	**40884**	**8516**	**2133**

(Source: (i) IPPIS, Abuja (2024) (ii) Author's Compilation (2024)

■4.0 RESULTS

Out of 2,133 copies of the questionnaire administered, 1,749 were retrieved and valid. This translates to approximately an 82% return rate, which is a good representation of the population.

4.1 Respondents' Demographic Profile

4.1.1 Gender of the Workers

More than half (61.1%) of the respondents were males, while 38.9% were females (Figure 1). This implies that the male gender dominates the Federal Civil Service in Abuja more than their female counterparts. This finding is not enough to conclude that males are more males than females in the Nigerian Civil Service Commission. However, the observed variation in the gender distribution of the Federal civil service workers is a reflection of cultural characteristics of Hausa people, which mostly does not allow women to work; women are busy with domestic work at home, while their male counterparts go out to work to fend for the family. This is in tandem with the reconnaissance survey carried out at the Federal Ministry of Employment as well as the Federal Ministry of Finance, which revealed that the Hausa/Fulani tribe is more represented than other tribes in the Federal civil service work in Abuja. It can be deduced from the finding that dominance of the male gender as against the female will have certain implications on the choice of housing typology consequent upon the corresponding preference.

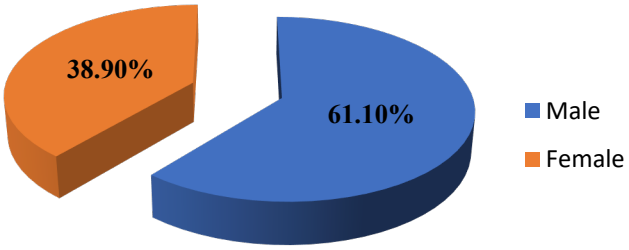

Figure 1 Gender of the workers

4.1.2 Age Distribution of the Workers

The examination of ages of Federal Civil Service workers shows that 40.3% of them were aged between 36 and 45 years, and some (21.7%) were aged 26 to 35 years, 46 to 55 years (18.2%), above 55 years (14.7%), and 18 to 25 years (5.2%), as presented in Table 2. Thus, the fact that most of the workers were between 36 and 45 years old reveals the influence of Nigerian Civil Service Commission stipulations on the age requirements for active service of workers, in which the Federal Civil Service sector in Abuja is no exception. The implication of this is that the majority of the respondents are adults and mature, and it is expected that reliable information will be obtained from them regarding housing preference in the area. It can be inferred that workers within these age groups are of marriageable age with families that needed to be provided with a satisfying accommodation.

Table 2 Age distribution of the workers

Age Groups	Frequency (N)	Percentage (%)
Above 55years	257	14.7
46 - 55 years	318	18.2
36 - 45 years	704	40.3
26 - 35 years	379	21.7
16 - 25 years	91	5.2
Total	**1749**	**100.0**

4.1.3 Educational Level of the Workers

As regards educational level, 82.4% of the respondents in active civil service had tertiary education (Higher National Diploma (HND) or First degree). This was followed by those with a Nigerian Certificate in Education (NCE) / Ordinary National Diploma (9.9%), secondary school education (3.9%), primary school education, and no formal education, with 1.9% respectively. Explicitly, the result also shows variation in the level of educational attainment in relation to stratification, placement, and assigned job description among the workers. It is therefore imperative to mention that differences in the educational backgrounds of workers will influence housing preferences for ancillary facilities.

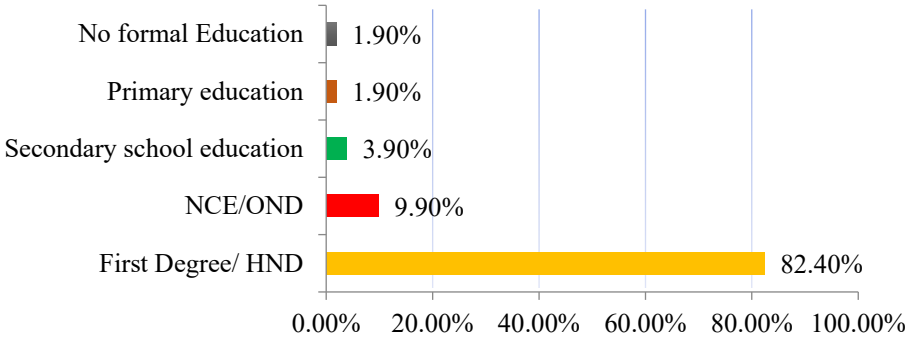

Figure 2 Educational level of the workers

4.1.4 Marital Status of the Workers

Given the marital status of the workers, the majority (81.4%) of them were married, followed by widowed (9.8%) and divorced (5.4%), while single accounted for 3.4% (Table 3). Thus, it is expected that the housing needs and requirements of married workers with more than one person living together under the same roof as a family must be taken into consideration during the architectural design of their house.

Table 3 Marital status of the workers

Marital Status	Frequency (N)	Percentage (%)
Married	1424	81.4
Widow/Widower	171	9.8
Divorced	94	5.4
Single	60	3.4
Total	**1749**	**100.0**

4.1.5 Employment Status and the Grade levels of the Workers

Employment statuses of workers were classified into three: full-time, part-time, and contract workers. Most (81.8%) of the workers were on full-time appointment, some (18.0%) were on part-time appointment, while contract staff members account for 0.2%. It is important to state that larger proportions of the sampled workers were full staff members, which is a reliable representation for an assessment of housing preference among Federal civil service workers in the study area.

In regard to the grade levels of the workers, however, about 49.6% of them were between grade levels 01 and 09, followed by those with grade levels 10 and 14 (36.5%) and grade level 15 and above (14.0%). The variation in the employment status and the grade levels was significant given (X^2= 26.426 and p = 0.000). A cursory look at the employment types reveals that a considerable number of workers with full-time appointment is legally recognised workers, which is enough percentage for a study of this nature, while workers on part-time and contract appointments in the federal government establishments were not gazetted workers in the Nigerian Civil Service.

Table 4 Employment status and the grade levels of the workers

Employment Status	Frequency (N)	Percentage (%)
Full-time	1430	81.8
Part-time	315	18.0
Contract	04	.2
Total	**1749**	**100.0**
Grade Levels	**Frequency (N)**	**Percentage (%)**
01-09	867	49.6
10-14	638	36.5
15 and above	244	14.0
Total	**1749**	**100.0**

4.1.6 Monthly Income of the Workers

With respect to the monthly income of workers, 30.3% earned ₦ 91,000 - ₦ 160,000 per month. 27.2% earned ₦ 161,000 - ₦ 230,000, 21.4% earned above ₦ 231,000, while ₦ 30,000 - ₦ 90,000 constitutes 21.0% (Figure 3). The result attested to the general belief of the public that workers in the Federal civil service are expected to earn a tangible amount monthly because their employer set the benchmark for the minimum wage payable to workers across the states of the federation. It is also imperative to emphasise that, as of the time of the field survey, the national minimum wage in Nigeria was still ₦ 30,000. By implication, the monthly income of the workers will greatly influence the choice of a house form to either rent, buy, or build because investment into housing is capital intensive.

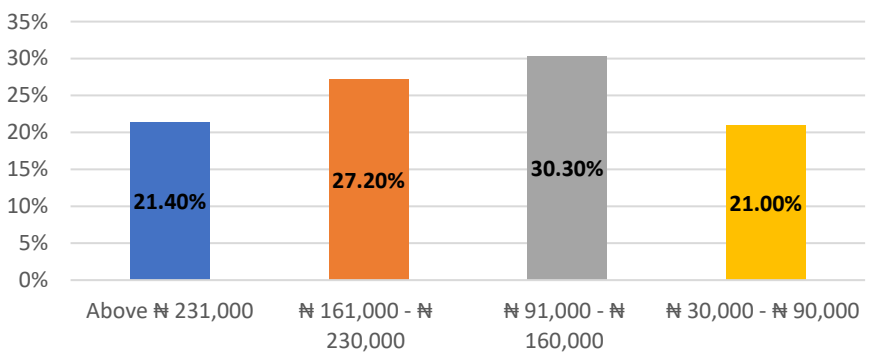

Figure 3 Monthly income of the workers

4.1.7 Household Size of the Workers

Analysis shows that most (43.2%) households had a membership size of 3 to 4 persons, followed by those with 5 to 6 persons (28.2%) and 1 to 2 persons (20.0%), 7 to 8 persons constitute 3.7% while households above 8 persons account for 1.6% (Table 5). Tendency towards large family size in Nigeria is gradually declining due to a number of factors such as unemployment, high cost of living, and economic recession, among others. Thus, there is the possible influence of family size on the need for housing and its associated preferences.

Table 5 Household size of the workers

Household sizes	Frequency (N)	Percentage (%)
1 – 2 persons	349	20.0
3 – 4 persons	813	46.5
5 – 6 persons	494	28.2
7 – 8 persons	65	3.7
Above 8 persons	28	1.6
Total	**1749**	**100.0**

4.1.8 Tribe of the Workers

About 43.2% of the workers were of the Hausa/Fulani tribe, Yoruba (29.8%), Ibo (21.6%), while 5.4% accounted for other tribes different from the three broad classifications of tribes in Nigeria (Figure 4). This is in accordance with the reconnaissance survey conducted at the Federal Ministry of Employment as well as the Federal Ministry of Finance, which revealed that the Hausa/Fulani tribe is more represented than other tribes in the Federal civil service work in Abuja. The inference drawn is that workers of Yoruba and Ibo tribes in active civil service migrated from their origin of descent to Abuja in search of a greener pasture for their family. It is therefore important to assess housing preferences of workers with diverse ethnic groups because Nigeria is often described as a multi-ethnic country.

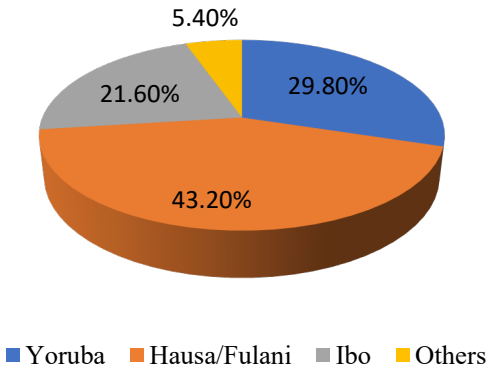

Figure 4 Tribe of the workers

4.2 Analysis of Building Material Preferences of the Respondents

Understanding the building material preferences of the workers in Abuja is very crucial to the general study of their housing preferences. This section thus discusses the building material preferences of the government workers in Abuja.

4.2.1 Wall Materials

The study revealed that preference for building wall materials varied among the workers. Thus, 76.4%, 19.0%, 2.9%, 1.3%, and 0.3% preferred the use of sand cement block, brick, timber, mud, and other wall materials, respectively, as wall materials (see Table 6) for their buildings owing to the exposure and knowledge of construction materials in the building industry.

4.2.2 Roof Materials

The result of the analysis of the preferred roof materials among the workers, as presented in Table 6, revealed that the majority (65.1%) of the respondents prefer long-span aluminium roofing sheets; other respondents (22.1%) prefer steep tiles; 8.9% prefer corrugated iron/zinc; and 3.3% prefer thatched roofs. A small percentage of respondents (0.7%) prefer other types of roofing materials that differ from those previously mentioned. The findings suggest that high preference for long-span aluminium sheet was borne out of its distinctive qualities of light weight, weather resistant and energy efficient. This makes it a popular choice among developers in Nigerian cities, coupled with its durability attributes.

4.2.3 Floor Finishes

Table 6 summarises the preferred types of floor finishes. As shown in the Table, considerable proportions (83.2%) of the respondents prefer ceramic tiles. This is next to 13.4% for thermoplastic tile, rug/carpet (2.2%), cements screeding (1.0%), and 0.1% for other floor finishes obtainable in the building industry. It can therefore be inferred from the findings that ceramic tiles were chosen by the workers as their preferred floor finishes because of its aesthetic appeal, durability, and easy care.

4.2.4 Ceiling Materials

From Table 6, it was observed that the percentage of the most preferred ceiling material (82.2%) was Plaster of Paris (POP), followed by asbestos cement product (13.1%), wood veneer (4.3%), and mat (0.2%), while some (0.1%) dislike the use of ceilings in the house, and 0.1% also prefer some other types of ceiling materials.

4.2.5 Wall Finishes

Table 6 summarises the respondents' preferences for different wall finishes in the study area. It was inferred that the majority (75.3%) of the respondents preferred paint. Other preferred wall finishes include tile (15.6%), plastered (6.8%), and unplastered (2.3%) wall surfaces. This implies that a higher proportion of the workers had a high preference for painted wall surfaces, which will aid the aesthetic value of their place of abode at a low cost compared to tile.

4.2.6 Window Materials

The results of the analysis, as contained in Table 6, reveal that half (50.4%) of the respondents preferred using aluminium sliding windows in their houses. Next to this are preferences for casement (29.7%) windows and louvers blade windows (15.0%). However, few of the respondents prefer the use of timber panels (4.7%) and others (0.1%). It can be deduced from the analysis that there is a disparity in preference for window materials among the Federal civil service workers in the study area. This implies that the majority of Federal civil service workers preferred modern window type that is cheaper compared to casement window.

4.2.7 Door Types

The preference of the respondents for door is summarised in Table 6. As shown in Table 6, most (24.4%) of the workers preferred imported metal doors and local metal doors (24.8%), while some (20.6%) chose imported wooden doors. However, 15.1% and 12.0% of the participants expressed a preference for alternative door types and local wooden doors, respectively. It could be inferred that variation in the preference for door materials can be linked to the financial strength of the workers coupled with the need to safeguard the house's entrance against burglars.

Table 6 Preferred building materials of the respondents

Wall materials	**Frequency (N)**	**Percentage (%)**
Sand cement block	1337	76.4
Brick	333	19.0
Mud	23	1.3
Timber	50	2.9
Others	6	0.3
Total	**1749**	**100.0**
Roof Types	**Frequency (N)**	**Percentage (%)**
Long-span aluminium roofing sheet	1138	65.1
Steep tiles	386	22.1
Corrugated iron/zinc sheet	155	8.9
Thatched roof	58	3.3
Others	12	0.7
Total	**1749**	**100.0**
Floor Finishes	**Frequency (N)**	**Percentage (%)**
Ceramic tiles	1456	83.2
Thermoplastic tile	235	13.4
Rug/Carpet	39	2.2
Cement screeding	18	1.0
Others	1	0.1
Total	**1749**	**100.0**

Table 6 (Continued)

Ceiling Materials	Frequency (N)	Percentage (%)
Plaster of Paris (POP)	1437	82.2
Asbestos cement product	229	13.1
Wood veneer	76	4.3
Mat	3	0.2
No ceiling	2	0.1
Others	2	0.1
Total	**1749**	**100.0**
Wall Finishes	**Frequency (N)**	**Percentage (%)**
Paint	1317	75.3
Tile	273	15.6
Plastered	119	6.8
Unplastered	40	2.3
Total	**1749**	**100.0**
Window Materials	**Frequency (N)**	**Percentage (%)**
Sliding window	882	50.4
Casement	520	29.7
Louvers	263	15.0
Timber panels	83	4.7
Others	1	0.1
Total	**1749**	**100.0**
Door Types	**Frequency (N)**	**Percentage (%)**
Local metal door	434	24.8
Local wooden door	210	12.0
Imported metal door	480	27.4
Imported wooden door	361	20.6
Others	264	15.1
Total	**1749**	**100.0**

4.3 Correlation between Demographic Characteristics and Preferred Building Materials of the Respondents

An attempt was made to examine the relationship between socio-economic and cultural characteristics of respondents and their preferred building materials in the study. Spearman Rank (rho) correlation analysis was used to examine their relationship, and the results are contained in Table 7.

Table 7 shows the relationship between socio-economic as well as cultural characteristics of workers and preferred building materials. Accordingly, the relationship that first caught attention is that of gender, where very weak correlations were found for all material preferences, with coefficients ranging from -0.002 to 0.081. However, significant correlations ($p < 0.05$) were noted for "Wall finishes" ($R = 0.081$) and "Window material" ($R = 0.076$), though the strength of these relationships is negligible. This shows that Gender does not play a major role in determining material preferences.

Age has weak negative correlations for "Wall finishes" ($R = -0.069$), "Window material" ($R = -0.173$), and "Type of door" ($R = -0.143$). These correlations are statistically significant ($p < 0.05$), indicating that older individuals may have slightly lower preferences for these materials. On the other hand, other correlations are not statistically significant. The result shows that older individuals tend to prefer different wall finishes, window materials, and door types than younger individuals. The correlations, while weak, remain consistent, suggesting that age could have a slight impact on material preferences.

Positive and significant correlations exist between Education level and “Floor materials finish" ($R = 0.100$), "Ceiling material" ($R = 0.136$), and "Wall finishes" ($R = 0.129$). This indicates that higher education may influence preference for these materials. However, "Type of door" exhibits a weak negative significant correlation ($R = -0.086$). Higher education levels are associated with preferences for specific flooring, ceiling, and wall materials. Those with higher education tend to have a weaker preference for simpler or different door types. Generally, Education level could influence choices for aesthetically or functionally advanced materials.

Employment status is positively and significantly correlated with "Floor materials finish" ($R = 0.145$) and "Ceiling material" ($R = 0.060$). This shows a moderate association with material preference. However, negative significant correlations are observed for "Window material" ($R = -0.080$) and "Type of door" ($R = -0.052$). Employment status correlates more strongly with preferences for floor materials, indicating potential affordability or taste differences among employed individuals.

In the case of monthly income, a significant negative correlation is observed for "Window material" ($R = -0.133$) and "Type of door" ($R = -0.145$). This suggests that individuals with higher income levels may prefer different materials for windows and doors. It could be inferred that higher-income individuals show slight preferences for different materials for windows and doors compared to lower-income groups.

The "Ceiling material" ($R = 0.074$) and the "Window material" ($R = 0.136$) significantly correlate with marital status. However, it exhibits very weak correlations with other materials. Marital status has a weak but consistent influence on preferences for ceilings, windows, and doors. It may be deduced that newly married individuals or families might prefer more durable or aesthetically pleasing materials.

Household size shows significant positive correlations with "Window material" ($R = 0.087$) and "Type of door" ($R = 0.109$). This means that larger households might prefer these materials. Larger households may prefer specific window and door materials that align

with their practical needs or aesthetic tastes. It can therefore be inferred from the analysis that as the variable of household size increases, preferences for a particular door type also change. It means that the higher the number of family members, the greater the shift in workers' preference for door type in the study area. This may be due to the peculiarity of the social context of the Federal Capital Territory.

Tribe significantly correlates with "Floor materials finish" (R = 0.080) and "Window material" (R = -0.085). The negative correlation for window materials indicates that tribal affiliation influences this preference. Tribal affiliations seem to influence preferences for floor and window materials, likely due to cultural norms or regional availability.

Religion shows stronger positive correlations for "Wall materials" (R = 0.128), "Window material" (R = 0.160), and "Type of door" (R = 0.118). These relationships are statistically significant. Religious affiliations significantly influence preferences for walls, windows, and doors, possibly reflecting aesthetic or cultural traditions.

Table 7 Correlation analysis of socio-economic and cultural attributes with housing characteristics

		Wall materials	Roof materials	Floor finishes	Ceiling materials	Wall finishes	Window materials	Door types
Gender	R	.019	-.002	.015	.009	.081	.076	.046
	p-value	.418	.928	.526	.718	.001	.001	.053
	N	1749	1749	1749	1749	1749	1749	1749
Age	R	-.004	.034	-.012	-.027	-.069	-.173	-.143
	p-value	.878	.150	.627	.261	.004	.000	.000
	N	1749	1749	1749	1749	1749	1749	1749
Educational level	R	.018	.038	.100	.136	.129	.006	-.086
	p-value	.450	.108	.000	.000	.000	.795	.000
	N	1749	1749	1749	1749	1749	1749	1749
Employment status	R	.077	.044	.145	.060	.047	-.080	-.052
	p-value	.001	.068	.000	.012	.052	.001	.030
	N	1749	1749	1749	1749	1749	1749	1749
Monthly income	R	.011	.028	.040	.057	-.014	-.133	-.145
	p-value	.632	.239	.094	.017	.552	.000	.000
	N	1749	1749	1749	1749	1749	1749	1749
Marital status	R	.010	-.015	.046	.074	.059	.136	.064
	p-value	.684	.527	.053	.002	.014	.000	.007
	N	1749	1749	1749	1749	1749	1749	1749
Household size	R	.046	.073	.059	-.008	.002	.087	.109
	p-value	.056	.002	.013	.733	.936	.000	.000
	N	1749	1749	1749	1749	1749	1749	1749
Tribe	R	.062	.077	.080	.011	-.016	-.085	-.013
	p-value	.009	.001	.001	.633	.506	.000	.599
	N	1749	1749	1749	1749	1749	1749	1749
Religion	R	.128	.026	.090	.070	.030	.160	.118
	p-value	.000	.278	.000	.004	.216	.000	.000
	N	1749	1749	1749	1749	1749	1749	1749

R = Spearman's rho Correlation, N = Number, P-value = Sig. (2-tailed)

■5.0 DISCUSSION

The findings of this study align with existing literature while highlighting new dimensions in housing preference research. The results suggest that while demographic factors such as gender, age, education, income, and marital status exhibit statistically significant correlations with material preferences, the practical significance of these correlations remains weak ($|R| < 0.2$). This implies that other factors, such as market availability, cultural influences, and policy incentives, may exert a stronger influence on material choices.

Prior studies have emphasised that housing preferences are shaped by demographic factors, economic conditions, and cultural backgrounds (Mohammed, 2021; Jansen et al., 2011). This study's findings corroborate earlier work by Olanrewaju and Woon (2019) and Waddell (2018), who noted that socioeconomic factors play a role in residential choices, albeit often mediated by external factors such as affordability and accessibility.

The weak correlations observed between gender and material preferences support previous studies, such as those by Opoku and Abdul-Muhmin (2010), which argue that gender differences in housing choices are often overshadowed by financial and practical considerations. While significant correlations were noted for wall finishes (R = 0.081) and window materials (R = 0.076), the overall trend suggests that material selection is more likely influenced by economic and cultural factors than by gender alone.

The study finds weak but significant negative correlations between age and preferences for certain materials, particularly wall finishes (R = -0.069), window materials (R = -0.173), and door types (R = -0.143). These results are consistent with previous research by Henilane (2016), which posited that younger individuals are more open to modern construction materials, whereas older individuals may have a stronger preference for traditional materials.

Education level showed a positive correlation with preferences for flooring materials (R = 0.100), ceiling materials (R = 0.136), and wall finishes (R = 0.129), which aligns with studies by Kim (2020) and Ibrahim (2024) that suggest higher educational attainment correlates with a preference for modern and high-quality housing materials. Similarly, employment status was positively correlated with

floor finishes (R = 0.145) and ceiling materials (R = 0.060), reinforcing findings from previous research that employment stability often influences investment in housing quality (Eta and Vardhan, 2024).

The study found that income had significant but weak negative correlations with window materials (R = -0.133) and door types (R = -0.145), suggesting that higher-income workers may prefer alternative materials that were not the primary focus of this study. This aligns with findings from Rahadi et al. (2015), who observed that wealthy individuals often opt for imported or premium materials, whereas lower-income individuals prioritise cost-effective solutions.

Larger households exhibited a preference for specific window materials (R = 0.087) and door types (R = 0.109), which may be attributed to security concerns and durability considerations. This observation supports the work of Smits and Mulder (2008), who noted that household size influences spatial and material preferences in housing.

Cultural and religious backgrounds showed relatively stronger correlations with material preferences compared to other demographic variables. Religion exhibited significant correlations with wall materials (R = 0.128), window materials (R = 0.160), and door types (R = 0.118), while tribal affiliation correlated with floor finishes (R = 0.080) and window materials (R = -0.085). These findings reinforce earlier research by Davies et al. (2002) and Høibø et al. (2018), which highlight the role of cultural identity and traditions in shaping housing choices. The findings suggest that some materials are associated with social status or religious symbolism, influencing their desirability among different groups.

The weak correlations found in this study suggest that demographic characteristics alone are insufficient in explaining material preferences. Instead, a more holistic approach that includes cultural, economic, and environmental factors is necessary. This supports earlier conclusions by Zinas and Jusan (2012) and Ærо (2006), who argued for integrated housing policies that consider socio-economic realities alongside demographic influences.

According to Akewusola et al. (2025), there should be a consideration for broader market dynamics, cultural preferences, and economic constraints when designing housing programs that are meant for civil servants. With this, policymakers as well as developers can better match housing supply with actual demand, improving the success rate of future housing projects.

■6.0 CONCLUSION

This study contributes to the existing literature by providing empirical evidence on the weak but statistically significant relationships between demographic factors and building material preferences. While confirming the relevance of demographic attributes in housing choices, the findings emphasise the need for further investigation into external influences, such as affordability, cultural values, and market trends. Future research should explore the interplay of these factors to provide a more comprehensive understanding of material selection in housing markets.

Acknowledgement

We would like to acknowledge the anonymous reviewers for their critical and constructive comments that helped improve the quality of this paper.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

References

Akewusola, R. A., Odunjo, O. O., Ayinla, A. K., Firdaus, U. T. M., & Akangbe, O. O. (2025). Analysis of building material preferences of civil workers in Abuja. *FUDMA Journal of Sciences, 9*(2), 262-270. https://doi.org/10.33003/fjs-2025-0902-3119

Al-Nahdi, T. S., Ghazzawi, O. H., & Bakar, A. A. (2015). Behavioral factors affecting real estate purchasing. *International Journal of Business and Social Science, 6*(8), 146-154.

Ærо. T. (2006). Residential choice from a lifestyle perspective. *Hous. Theory Soc, 23,* 109–130.

Craig, A., Abbott, L., Laing, R.& Edge, M. (2017). Assessing the acceptability of alternative cladding materials in housing: Theoretical and methodological challenges.

Davies, I., Walker, B. & Pendlebury, J. (2002). *Timber cladding in Scotland*; ARCA Publications: Edinburgh, UK.

Ekta & Vardhan, P. (2024). Assessing key factors influencing rental housing choices and affordability for Economically Weaker Sections (EWS): A neighborhood study in Delhi. *Journal of Contemporary Urban Affairs, 9*(1), 76–94. https://doi.org/10.25034/ijcua.2025.v9n1-5

Hauge, Å.L. & Kolstad, A. (2007). Dwelling as an expression of identity. A Comparative Study among residents in high-priced and low-priced neighbourhoods in Norway. *Hous. Theory Soc. 24*, 272–292.

Henilane, I. (2016). Housing concept and analysis of housing classification. *Baltic Journal of Real Estate Economics and Construction Management, 4,* 168-179. https://doi.org/10.1515/bjreecm-2016-0013

Hoekman, R. P. (2019). *Research into housing preferences of starters on the housing market: Determine the most suitable locations in the Randstad for redevelop vacant non-residential buildings into starter dwellings based on the preferences of the starters on the housing market*. Master Thesis. Eindhoven University of Technology.

Høibø, O., Hansen, E. and Nybakk, E. (2015). Building material preferences with a focus on wood in urban housing: Durability and environmental impacts. *Can. J. For. Res.* 45, 1617–1627.

Ibrahim, R. A. (2024). Residential quality and revealed housing preferences in Lagos. In *The Urban Book Series* (pp. 117-155). https://doi.org/10.1007/978-3-031-47432-37

Jansen, B. J. (2011). *The accidental city: violence, economy and humanitarianism in Kakuma refugee camp, Kenya.* Ph.D Thesis, Wageningen University.

Jansen. S, Coolen, H., & Goetgaluk, R (2011). *The measurement and analysis of housing preference and choice.* Springer Science – Business Media.

Kam, K. J., Lim, A. S., Al-Obaidi, K. M., & Lim, T. S. (2018). Evaluating housing needs and preferences of Generation Y in Malaysia. *Planning Practice & Research, 33*(2), 172-185.

Kim K. (2020). *Payment performance and residency discounts in the rental housing market*. https://doi.org/10.1111/1540-6229.12224 on 13th November 2023

Mohammed, I. H. (2021). *The housing preferences of workers in Jakarta*. Master Thesis. Rijksuniversiteit.

Odunjo, O.O. (2014). *Housing finance strategies and design characteristics in the urban fringe of Ibadan, Southwest, Nigeria*. Unpublished Ph.D Thesis, Ladoke Akintola University of Technology, Ogbomoso.

Olanrewaju, A. & Woon, T. C. (2019). An exploration of determinants of affordable housing choice. *International Journal of Housing Markets and Analysis, 10*(5), 703-723. https://doi.org/10.1108/IJHMA-11-2016-0074

Opoku, R. A. & Abdul-Muhmin, A. G. (2010). Housing preferences and attribute importance among low-income consumers in Saudi Arabia. *Habitat International 34*(2), 219–227. https://doi.org/10.1016/j.habitatint.2009.09.006.

Rahadi, R. A., Wiryono, S. K., Koesrindartoto, D. P., & Syamwil, I. B. (2015). Factors influencing the price of housing in Indonesia. *International Journal of Housing Markets and Analysis*, *8*(2), 169–188.

Singla, H. K. & Bendigiri, P. (2019). Factors affecting rentals of residential apartments in Pune, India: An empirical investigation. *International Journal of Housing Markets and Analysis, 12*(6), 1028-1054. https://doi.org/10.1108/IJHMA-12-2018-0097

Smits, A.W.M. & Mulder, C.H. (2008). Family dynamics and first-time homeownership. *Housing Studies, 23*(6), 917-933. doi:10.1080/02673030802416601.

Strzalka, K. B. (2019). *What are the students' housing preferences? A case study of Lublin, Poland*. A published Master's Thesis in Real Estate and Construction Management, KTH Royal Institute of Technology School of Architecture and The Built Environment, Stockholm.

Triyuly, W. (2010). Identification of household preferences for low-income communities in Palembang City based on hierarchical cluster and discriminate analysis methods. *Proceedings of the National Seminar on Research Methods in Architecture Towards Education.* Accessed 28th Sept., 2023.

Vasanen, A. (2012). Beyond stated and revealed preferences: The relationship between residential preferences and housing choices in the urban region of Turku, Finland. *J. Hous. Built Environ. 27*, 301–315.

Waddell, P. (2018). Socioeconomic factors in residential choice. *Journal of the American Planning Association, 84*(2), 181-198.

Zinas, B. Z. & Jusan, M. B. M. (2012). Housing choice and preference: Theory and measurement. *Procedia - Social and Behavioral Sciences*, *49,* 282–292. https://doi:10.1016/j.sbspro.2012.07.026.