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Knowledge, Attitude and Practice of Sustainable Consumption Among Undergraduate Students of Construction at Ahmadu Bello University

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Abstract

Sustainable Development Goal (SDG) 12 emphasizes responsible consumption and production, a priority area for countries like Nigeria where weak policy enforcement and infrastructural deficits hinder sustainable practices. Higher education institutions play a vital role in shaping the knowledge, attitudes, and behaviors of future professionals, particularly those in construction disciplines whose decisions significantly influence resource use. This pilot study examined the knowledge, attitudes, and practices (KAP) of sustainable consumption among undergraduate students of Architecture and Quantity Surveying at Ahmadu Bello University, Zaria.

A cross-sectional survey design was adopted, and data were collected among a convenient sample of 53 undergraduates of Architecture and QS using a structured KAP questionnaire adapted from previous studies. Reliability analysis of the revised instrument demonstrated strong internal consistency across scales (Cronbach's alpha = 0.88–0.91). Descriptive statistics were used to assess levels of knowledge, attitude towards sustainable consumption, government polies and pro-sustainable consumption practices (KAP), while chi-square tests examined relationships among them.

Findings revealed high knowledge (88%) and moderate-to-high attitudes (68%), but low levels of sustainable consumption practices (21%). Knowledge of sustainable consumption was significantly associated with attitude ($p = 0.038$) but not with practice ($p = 0.916$), confirming the presence of a "KAP gap." The study underscores the need for curriculum reform, supportive infrastructure, and peer-based initiatives in the Nigerian context based on the revised instrument to translate awareness into consistent sustainable behaviors.

INTRODUCTION

The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, provide a global framework for tackling poverty, inequality, climate change, and environmental degradation (United Nations, 2015). Goal 12, Responsible Consumption and Production, emphasizes efficiency in resource use and sustainable lifestyles. Yet, progress toward this goal remains uneven in many developing countries, including Nigeria, where weak tracking mechanisms, infrastructural deficits, and low public awareness continue to drive unsustainable practices such as excessive resource use, poor waste management, and environmental pollution (UNDP, 2021; Ajani & Igbokwe, 2020; Ogunbode et al., 2018; Akinbami & Ibitoye, 2020)

Higher education institutions (HEIs) play a critical role in advancing sustainability by shaping the knowledge, attitudes, and behaviors of future professionals (Fadeeva et al., 2014; Oladapo & Momoh, 2022). Students in construction-related disciplines are particularly important because their design, procurement, and operational decisions will directly influence resource efficiency and environmental outcomes in the built environment. Despite global attention to sustainable consumption, empirical research in Nigeria has largely focused on environmental awareness or climate change education, with little emphasis on SDG 12 or the behavioral dimensions of consumption in higher education (Ahamad et al., 2018; Daramola et al., 2021). Even fewer studies examine construction students, despite their central role in implementing sustainability in practice.

This study addresses that gap by examining the knowledge, attitudes, and practices (KAP) of sustainable consumption among undergraduate students of Architecture and Quantity Surveying at Ahmadu Bello University, Zaria one of Nigeria's leading public universities. Specifically, it asks: (i) What are the levels of KAP of sustainable consumption among these students? and (ii) What relationships exist between knowledge, attitude, and practice? By providing empirical evidence from a group of future built-environment professionals, the study contributes to the literature on sustainability in higher education and offers insights for curriculum reform and behavioral interventions aimed at advancing SDG 12 in Nigeria. The study also revises survey instruments adapted to assess sustainable consumption among Nigerian university students

LITERATURE REVIEW

Sustainable consumption

Sustainable consumption refers to the efficient use of resources in ways that minimize environmental impact while supporting social equity and quality of life (Tukker et al., 2010; Mont & Plepys, 2008). It has been described in terms of mindful use (Lim, 2017), appropriate product choices (Hornibrook et al., 2013), and ensuring availability of resources for future generations (Quoquab & Mohammad, 2017). Higher education institutions (HEIs) play a vital role in promoting these values through teaching, research, and campus practices (Abenu et al., 2024).

A range of factors influence the adoption of sustainable consumption behaviors. One of the most widely discussed drivers is environmental awareness and perceived consumer effectiveness (PCE), the belief that individual actions can make a meaningful difference. Studies show that individuals who perceive their choices as impactful are more likely to engage in pro-environmental behaviors (Kollmuss & Agyeman, 2002; Afsar et al., 2016). Closely related to this is the role of education and exposure, which are consistently linked to positive lifestyle changes and greater adoption of sustainable practices (Zeegers & Clark, 2014; Bashir et al., 2018). In addition to awareness and education, health concerns often shape consumption choices. Consumers who perceive sustainability as beneficial to personal or community health are more inclined to adopt practices such as healthy diets, recycling, or reduced use of harmful products (WHO, 2002; Ukenna & Nkamnebe, 2016).

Socioeconomic factors, including income and access to resources, also play a crucial role. Wealthier households may be better able to afford sustainable alternatives, while lower-income groups often face cost and availability barriers (AfDB, 2010; Young et al., 2010). Finally, trust in products and perceptions of quality strongly affect green purchasing decisions. Consumers are more likely to embrace sustainable alternatives when they believe the products are effective, reliable, and worth the cost (Hughner et al., 2007; Joshia & Rahman, 2016). Within the built environment specifically, practical exposure, innovation, and collaboration with industry can further encourage sustainable behavior among students and professionals (Ukenna, 2018). These are often influenced by national and institutional policies.

Several policies regarding sustainable consumption have been put in place in Nigeria. They include prohibition against bush burning/open fires and unlicensed mining activities. Others relate to recycling of plastic products (PET, polyethene bags etcetera), monthly environmental sanitation days, reduction in energy consumption by using pre-paid meters, ban against the use of styrofoam take-away packing for food items especially in Lagos State, cashless society, e-banking to reduce printing cash as well as subsidy removal on petroleum products (Diesel, PMS, Kerosene) (Federal Ministry of Environment, 2016; BusinessDay NG, 2024; Punch Newspapers, 2023). However, enforcement and infrastructure remain weak, limiting effectiveness (Ogunbode et al., 2018; Akinbami & Ibitoye, 2020).

KAP Studies and the "Gap"

Knowledge, Attitude, and Practice (KAP) surveys provide valuable insights into how sustainability awareness translates into behavior (Launiala, 2009; Ahmad et al., 2018). Studies consistently reveal a "KAP gap": individuals often demonstrate high levels of knowledge and positive attitudes toward sustainability but fail to translate these into concrete practices (Ahamad & Ariffin, 2018; Al-Nuaimi & Al-Ghamdi, 2022). Specifically, previous research shows that knowledge tends to be strongest in areas related to general environmental protection and quality of life but weaker in aspects involving resource limitation, energy conservation, and long-term environmental stewardship (Ahamad & Ariffin, 2018; Chekima et al., 2016). For instance, Diyaolu & Akanmu (2024) found young adults in Nigeria held good knowledge and positive attitudes toward sustainable fashion consumption, yet still adopted apparel that quickly goes out of style, indicating a gap in long-term oriented practices. Attitudes are typically positive toward personal responsibility and eco-friendly behaviors but less favorable toward sustainability policies perceived as restrictive, such as fuel subsidy removal or waste levies (Al-Nuaimi & Al-Ghamdi, 2022; Daramola et al., 2021). In Nigeria, attitudes toward SDGs were high in general (77.1 % in Ogundele et al., 2024), but awareness of specific goals (e.g., SDG 12) remained lower, suggesting uneven depth of attitude across sustainability domains. Practices, on the other hand, remain the weakest dimension across most studies, with students and consumers rarely engaging in consistent recycling, reuse, or advocacy despite expressing pro-sustainability beliefs (Chima, 2017; Ahamad & Ariffin, 2018). This echoes findings of the Diyaolu & Akanmu (2024) study, where knowledge and attitude were strong but behaviors lagged. In Nigeria's higher education context, the literature remains limited especially among construction-related disciplines making this study's focus particularly timely and relevant.

In the Nigerian context, Daramola et al. (2021) found that while students were knowledgeable about the environmental consequences of overconsumption, practical actions such as waste separation, reduction, and recycling were minimal. Similarly, Chima (2017) reported positive attitudes toward green products but limited purchasing behavior, largely due to cost and availability barriers. These trends suggest that sustainable consumption is conceptually well understood but practically underdeveloped, particularly in resource-constrained settings. Few empirical studies have explored these dynamics within higher education or among construction-related disciplines. By assessing KAP among future built-environment professionals, this study extends the literature by focusing on a group whose design, procurement, and operational decisions have direct implications for achieving sustainability in the Nigerian construction sector.

METHODOLOGY

Study Area: This study employed a cross-sectional survey design to examine the knowledge, attitudes, and practices (KAP) of sustainable consumption among undergraduate students in construction-related disciplines at Ahmadu Bello University (ABU), Zaria. ABU Zaria, is one of Nigeria's foremost higher education institutions and a leading center for training professionals in the built environment. Established in 1962, the university hosts a wide range of programs in engineering, environmental design, and architecture, with the Faculty of Environmental Design housing the Departments of Architecture and Quantity Surveying. The study focused on these departments because their students are future construction professionals whose design and cost decisions significantly influence sustainability outcomes.

Data Collection: The survey instrument was largely adapted from Ahamad et al. (2018), with contextual modifications to reflect the Nigerian setting, with all modified items italicized in Tables 3–6. Additionally, items related to attitudes toward government policies were adopted from existing literature to reflect relevant sustainability initiatives in Nigeria. A pilot study was conducted among a convenient sample of 53 students drawn from 400- and 500-level cohorts in the Departments of Architecture and Quantity Surveying. There were 132 final-year students in both departments combined; thus, the pilot represented approximately 11% of the total population. This proportion aligns with recommendations for pilot studies, where a sample size of 10% or more is considered adequate for pre-testing in Nigerian higher education research (Adeyemi & Afolabi, 2019; Orji et al., 2021).The instrument included five sections: demographic data, knowledge (12 true/false items), attitudes toward sustainable consumption (12 items), attitudes toward sustainability-related government policies (8 items), and sustainable practices (20 items), with the last three sections rated on a 5-point Likert scale.

Data Analysis: Reliability analysis showed satisfactory internal consistency, with Cronbach's alpha values ranging from 0.765 to 0.843. Descriptive statistics and Chi-square tests were used to analyze KAP levels and explore the relationships among the variables. To improve reliability, poorly performing items were iteratively removed. For example, in the attitudes scale, deleting items with low or negative item-total correlations (e.g., "A7 recoded") raised alpha from 0.765 to 0.912. Similar refinements were made to the policy and practice scales (see Appendix A for item-level statistics). In summary, for all three scales, the study conducted iterative reliability analyses. Items that showed low or negative item-total correlations, or whose removal would significantly increase the overall Cronbach's Alpha, were identified and subsequently deleted. This process led to an improvement in the internal consistency (Cronbach's Alpha) for all scales, resulting in more reliable measures for the constructs. Table 1 shows the reliability tests of the scales

Table 1: Reliability tests for scales employed in the study

Table	Title of Scale	Initial scale		Revised scale	
		No. of items	Alpha value	No. of items	Alpha value
4	Attitudes towards sustainable consumption	12	0.765	6	0.912
5	Attitudes towards government policies related to sustainable consumption in Nigeria	8	0.834	5	0.885
6	Pro sustainable consumption practices	20	0.843	17	0.900

RESULTS

Table 2: Demographic profile of respondents

Variable	Sub category	Frequency	%
Gender	Male	47	89%
	Female	6	11%
Course	Architecture	15	28%
	Quantity Surveying	38	72%
Mode of Admission	Remedials	4	8%
	JAMB/UTME	31	59%
	DE	10	18%
	PG	8	15%

The sample reflected demographic patterns typically observed in construction-related programmes at Ahmadu Bello University (ABU). Male respondents comprised 89% (n = 47) and females 11% (n = 6), consistent with long-standing male dominance in architecture and built-environment disciplines at ABU and across Nigeria (Adamu et al.,2022; Maina 2020; Mtan, 2017). The distribution by programme (Architecture 28%, Quantity Surveying 72%) aligns with departmental enrolment patterns reported in ABU theses and faculty records, where Quantity Surveying cohorts are often larger than Architecture in recent sessions. Age and academic standing were also consistent with expectations for late-stage undergraduates: respondents' ages ranged from 21 to 42 (Mean = 27.58, SD = 4.88), and mean CGPA was 3.30 (SD = 0.71), a distribution comparable to prior ABU studies that examined architecture student performance and cohort characteristics (e.g., mode of entry and CGPA analyses) (Bello, 2022; Ayinde & Samuel, 2018). Finally, the 53 respondents represent approximately 11% of the combined final-year population (N = 132) across the two departments; for a pilot study this level of coverage is acceptable for instrument validation and preliminary analyses in the Nigerian higher-education context.

Table 3: Knowledge of sustainable consumption*

Category	Items	True	%	False	%
QoL	The quality of local environments has a direct impact on human health	52	98%	1	2%
EnvP	Water resources need to be safeguarded from pollution	52	98%	1	2%
EnvP	Recycling, Reuse and Reducing can significantly reduce waste generation	51	96%	2	4%
QoL	Ecosystem services (air purification, flood regulation, water cycle erc) are highly affected by human behavior	50	94%	3	6%
Resc	Energy efficient products are among the innovative ways to ensure minimal resource utilisation	50	94%	3	6%
QoL	Access to natural resources (fossil fuels, natural vegetation, water, minerals etc) is an essential aspect of quality of life	49	93%	4	7%
Future	The uncontrolled use of non-renewable resources reduces the stock available in the future	48	91%	5	9%
Future	Natural resources (fossil fuels, natural vegetation, water, minerals etc) should be preserved for future generations	46	87%	7	13%
Resc	*There is a pressing concern to look into renewable resources as such resources are getting depleted*	46	87%	7	13%
EnvP	Plastic use should be reduced as it is harmful to the environment	44	83%	9	17%
Resc	Recycling, reuse and reduction are one of the ways to cut down resource utilization	38	72%	15	28%
Future	Natural resources (fossil fuels, natural vegetation, water, minerals etc) are limited	35	66%	18	34%

Overall, students demonstrated a high level of knowledge about sustainable consumption concepts, with an average accuracy of 88 %. The highest knowledge scores were observed in the Environmental Protection (EnvP) and Quality of Life (QoL) categories, while lower scores appeared under Resource

Limitation (Resc) and Future orientation. For example, nearly all respondents recognised that the quality of local environments directly affects human health (98 %) and that protecting water resources and practising the 3Rs: reduce, reuse, and recycle are vital for environmental sustainability (96–98 %). However, fewer students correctly identified that natural resources are limited (66 %) or that recycling and reuse directly reduce overall resource consumption (72 %).

This hierarchy of strong awareness of environmental protection and wellbeing, but weaker understanding of resource scarcity and inter-generational responsibility corresponds closely with findings from other university-based KAP studies. Ahamad and Ariffin (2018) and Al-Nuaimi and Al-Ghamdi (2022) similarly reported that students in Malaysia and Qatar showed excellent knowledge of environmental quality issues but more uncertainty about long-term resource management. Daramola et al. (2021) also found that Nigerian undergraduates' strongest knowledge areas related to hygiene and pollution control, whereas understanding of renewable energy and resource efficiency concepts was comparatively low.

In this respect, the pattern among ABU students mirrors the "universal" profile observed across different contexts where environmental protection dominates sustainability understanding but the magnitude of difference between environmental and resource focused knowledge appears greater in the Nigerian sample. This may reflect the greater visibility of environmental campaigns such as monthly sanitation days and tree planting exercises compared with limited institutional exposure to resource efficiency education or digital sustainability tools. The findings therefore suggest that while students' environmental literacy is globally aligned, their depth of resource related knowledge remains contextually shaped by local educational emphasis and infrastructure.

- Knowledge levels were generally moderate to high, no low knowledge across the sample

- Formal education and taught courses were the primary sources of obtaining knowledge on sustainable consumption. These are closely followed by self-learning/development as well as social media and social networks in the form of family and friends. Education whether formal or informal is the primary avenue of obtaining knowledge of SDG 12

Table 4: Descriptive statistics for attitudes towards sustainable consumption

Attitudes towards sustainable consumption	*Sum*	*Mean*	*SD*	*RAI*
I care for environmental quality as nature provides our basic needs (water, clean air, land, forests etc)	244	4.6	0.840	92%
I get irritated by smoke produced from burning activities	241	4.55	0.867	91%
More effort is required to preserve the environment	240	4.53	0.749	91%
I am willing to be involved in any programs to look after the environment	231	4.36	1.021	87%
I am ready to reuse recyclable items such as plastics, bottles and paper	229	4.32	0.976	86%
I value the natural beauty of the place where I live/stay	229	4.32	1.015	86%
I favor environmentally friendly products (eg products made from recycled materials)	213	4.02	1.028	80%
Bringing reusable bags is inconvenient*	176	3.32	1.465	66%
Recycling campaigns launched by the government is a waste of money and resources*	171	3.23	1.354	65%
Recycling is difficult to practice*	138	2.6	1.198	52%
Development should be given priority over the protection of the natural environment*	132	2.49	1.489	50%

*Negatively worded statements were reverse coded

Attitudes toward sustainable consumption were generally positive. The three most highly rated statements are caring for the environment, disliking pollution, and agreeing that more effort is needed to preserve the environment received RAI scores above 90%. This suggests that students recognize the intrinsic value of the natural environment and are emotionally aligned with sustainability values. However, certain negatively worded items (e.g., "Recycling campaigns are a waste of money" and "Development should be prioritized over environmental protection") scored lower, revealing moderate skepticism or apathy toward the implementation of sustainable practices.

Table 5: Descriptive statistics for attitudes towards government policies related to sustainable consumption in Nigeria

Government policy	*Sum*	*Mean*	*SD*	*RAI*
Prohibition against bush burning and open fires	232	4.38	0.904	88%
Prohibition of unlicensed mining activities	228	4.30	1.153	86%
Recycling of plastic products (PET, polyethene bags etcetera)	227	4.28	1.045	86%
Monthly environmental sanitation days	227	4.28	1.133	86%
Reduction in energy consumption by using pre-paid meters	216	4.08	1.253	82%
Ban on the use of styrofoam take-away packing for food items especially in Lagos State	208	3.92	1.124	78%
Cashless society, e-banking to reduce printing cash	193	3.64	1.287	73%
Subsidy removal on petroleum products (Diesel, PMS, Kerosene)	159	3.00	1.468	60%

The responses suggest that students largely support government sustainability policies, especially those with clear visibility or long-standing enforcement, such as bans on bush burning (RAI = 88%) and environmental sanitation days (RAI = 86%). Conversely, newer or more controversial policies such as subsidy removal on petroleum products received less support (RAI = 60%) and the ban on styrofoam packaging (RAI = 78%)—elicited lower support. This gradient of support seems to correlate with time and perceived benefit: the longer and more familiar a policy has been in operation, the greater the likelihood of public endorsement.

These findings mirror those of Ogunbode et al. (2018) and Akinbami and Ibitoye (2020), who reported that environmental policies in Nigeria with long-standing enforcement tend to attract greater compliance and public endorsement than recently introduced or weakly monitored ones. Historical evidence further supports this pattern: during the War Against Indiscipline (WAI) campaigns of the 1980s, environmental regulations especially those against bush burning and open dumping were strictly enforced, leading to widespread behavioral compliance that persisted long after the programme (Aina & Odebiyi, 2021, Maina, 2019). The enduring visibility of such initiatives appears to shape students' positive attitudes today.

The relatively lower acceptance of recent or economically sensitive measures, such as fuel subsidy removal or cashless policy drives, reflects broader attitudinal resistance observed in national surveys (NBS, 2023) where environmental or economic reforms lacking tangible citizen benefit or consistent enforcement often attract skepticism. Overall, the gradient of support in this study seems linked to both policy familiarity and institutional enforcement, reinforcing the argument that visible government accountability sustains pro-environmental attitudes.

Table 6: Descriptive statistics for pro sustainable consumption practices

Practice	*Sum*
I dispose waste in designated waste bins, containers or refuse areas	176
I reuse polythene and plastic bags when shopping	153
I reuse blank back pages of already used paper to write or re-print documents	151
I make more conscious decisions in an effort to avoid over consumption	151
I advocate and advice my family and friends to reduce consumption of resources such as water, electricity etc	149
I occasionally spend my recreation time (jogging, picnics etc) in natural environments such as parks and gardens	149
I do not walk across landscaped lawns	145
I practice recycling in my room/house	143
I buy energy efficient appliances with energy rating labels	142
I try not to print whenever I can	138
I purchase products that can be recycled	134
I carry my own reusable water bottle	127
I use less-polluting modes of transport	124
I leave the tap on when brushing my teeth*	120
I participate in environmental activities organised by institutions or organisations eg tree planting campaigns, end-of-month environmental sanitation etc	119
I segregate or sort waste using different waste bins or receptacles in my room/house	119
I attend seminars, workshops, conferences or exhibitions concerning the environment	112
I reject food packed in Styrofoam foam take away packages and plates	94
I report illegal open burning activities when I see one	86
I leave electrical appliances in stand-by mode when not in use TV, PC, water heater, WiFi etc*	73

*Negatively worded statements were reverse coded

Table 6 reveals a notable disconnect between knowledge/attitude and practice. Only a few practices such as proper waste disposal (66%) and reuse of polythene bags (58%) had moderate levels of adoption. The rest fell below 50%, with several items (e.g., attending environmental events, rejecting styrofoam packaging, reporting illegal burning, and reducing standby power use) receiving very low engagement (RAIs between 28–42%).

Overall, students demonstrated only moderate engagement in sustainable consumption practices. The mean Relative Agreement Index (RAI) across the 20 practice items was 68%, indicating that awareness and favourable attitudes have not fully translated into regular action. Practices that are personal and easily observable such as turning off unused lights or avoiding littering, recorded relatively high frequencies. However, activities that require institutional support or collective participation, such as waste sorting, consistent recycling, or tree-planting initiatives, showed markedly lower responses.

This pattern corresponds with recent campus realities. While Ahmadu Bello University has a long tradition of environmental sanitation, systematic tree-planting and recycling programmes have only recently been introduced through the Physical Planning and Development Directorate (PP&D) and the Sustainable Campus Initiative launched in 2022 (ABU News Bulletin, 2023). Hence, limited infrastructure and awareness may partly explain the low uptake of such practices among students.

Similar results have been reported in other Nigerian universities, where greening and waste-segregation programmes are still evolving. For instance, Onu and Yusuf (2021) found low recycling and re-use rates among students at the University of Lagos due to inadequate facilities, while Daramola et al. (2021) observed that tree-planting and campus greening received minimal participation despite positive attitudes toward sustainability. The ABU trend therefore aligns with national patterns showing that sustainability practices lag behind awareness because institutional structures to support them remain underdeveloped.

Table 6: Relationships between levels of knowledge, attitude and practice of sustainable consumption

Chi Square tests		Knowledge			
		Moderate	**High**	Total	*p. value*
Attitude	Poor	0 (0%)	2 (4%)	2 (4%)	*0.038*
	Moderate	11 (21%)	25 (47%)	36 (68%	
	High	0 (0%)	15 (28%)	15 (28%)	
Practice	**Low**	7 (13%)	26 (49%)	33 (62%)	*0.916*
	Moderate	4 (8%)	16 (30%)	20 (38%)	

Chi-square analysis showed a significant relationship between knowledge and attitude (p = 0.038), but no significant relationship between knowledge and practice (p = 0.916). This reinforces earlier observations that knowledge contributes to shaping positive attitudes but does not guarantee behavioral change.

DISCUSSION

The pilot study confirmed that the instruments used, attitudes towards sustainable consumption, attitudes towards government policies, and pro-sustainable consumption practices demonstrated strong reliability, with Cronbach's alpha values well above the 0.70 threshold (Nunnally & Bernstein, 1994). This validates their application in assessing KAP within the Nigerian context.

For knowledge, the findings revealed a generally high level of knowledge (average 88%), consistent with previous studies of university students in Malaysia (Ahamad & Ariffin, 2018), Qatar (Al-Nuaimi & Al-Ghamdi, 2022), and Nigeria (Olayinka, 2020). Students clearly understood issues relating to quality of life and environmental protection, although gaps persisted in resource conservation and long-term sustainability. The role of formal education and self-learning as primary knowledge sources highlights the potential of curriculum design and media engagement to deepen sustainability literacy. Attitudes were predominantly moderate to high, with strong support for environmental protection and positive perceptions of many government policies. This aligns with earlier work showing that environmental awareness often fosters supportive attitudes (Kollmuss & Agyeman, 2002; Bamberg & Möser, 2007). However, skepticism towards policies such as subsidy removal echoes findings that attitudes may vary depending on perceived fairness and socio-economic impact (Young et al., 2010). The significant relationship between knowledge and attitude (p = 0.038) further reinforces the importance of education in shaping pro-sustainability orientations.

Despite strong knowledge and positive attitudes, practices were weak, with most behaviors (e.g., recycling, waste sorting, advocacy) rated low. This disconnect, often referred to as the "KAP gap," has been widely reported (Jackson, 2005; Kollmuss & Agyeman, 2002). Similar to Ahamad & Ariffin (2018) and Al-Nuaimi & Al-Ghamdi (2022), this study found that high knowledge did not translate into consistent sustainable behavior. Structural barriers such as limited recycling infrastructure, socio-cultural norms, perceptions of inconvenience plus a general lack of penalty enforcement likely explain the weak practices observed. Chima (2017) likewise reported that Nigerian consumers expressed positive attitudes towards sustainable consumption but failed to reflect this in purchasing behavior due to high cost and availability issues.

These findings emphasize the need for interventions that go beyond awareness-raising. Experiential learning, peer influence, and institutional support are crucial for closing the KAP gap. Research has shown that social media and networks often play a greater role than formal education in influencing sustainability behavior (Al-Nuaimi & Al-Ghamdi, 2022). Therefore, leveraging these informal channels alongside curriculum reforms could foster habit

formation and pro-environmental norms. Furthermore, supportive infrastructure (e.g., waste sorting bins, recycling programs) and policy reinforcement on campuses are necessary to translate positive attitudes into consistent practice.

CONCLUSION AND RECOMMENDATION

Conclusion

This pilot study assessed the knowledge, attitudes, and practices (KAP) of sustainable consumption among undergraduate students of Architecture and Quantity Surveying at Ahmadu Bello University, Zaria. The results revealed a consistent pattern: students possessed high knowledge of sustainability issues and moderate-to-high attitudes toward both environmental protection and government policies. However, practices were weak across most indicators, confirming the presence of a KAP gap. A significant relationship was found between knowledge and attitude, but not between knowledge and practice.

These findings highlight the potential of higher education to foster sustainability awareness while also underscoring the structural and behavioral barriers that hinder the translation of knowledge and attitudes into practice. As future built-environment professionals, these students will play a critical role in shaping sustainable design, procurement, and operational decisions. Strengthening their practical engagement with sustainable consumption is therefore essential.

Recommendation

To bridge the identified "KAP gap," educational interventions should move beyond mere information dissemination to incorporate practical skills, experiential learning, and habit-forming activities that address perceived difficulties in practicing sustainable consumption. Furthermore, it's crucial to leverage diverse communication channels like social media and peer networks to promote behavioral change, and to reinforce and facilitate the practical application of government policies through community support and infrastructure, thereby translating positive attitudes into widespread sustainable practices. However, the study’s limitations highlighted that this pilot study involved a relatively small sample, which restricts generalization. Nevertheless, its strength lies in adapting, revising and validating knowledge, attitude, practice (KAP) scales for the Nigerian higher education context, providing a foundation for broader studies.

Declarations

Ethical approval (ABUCUSHR/2023/069) was granted for the study by the ABU Ethical Committee. All respondents consented to participate freely in the study.

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Figures

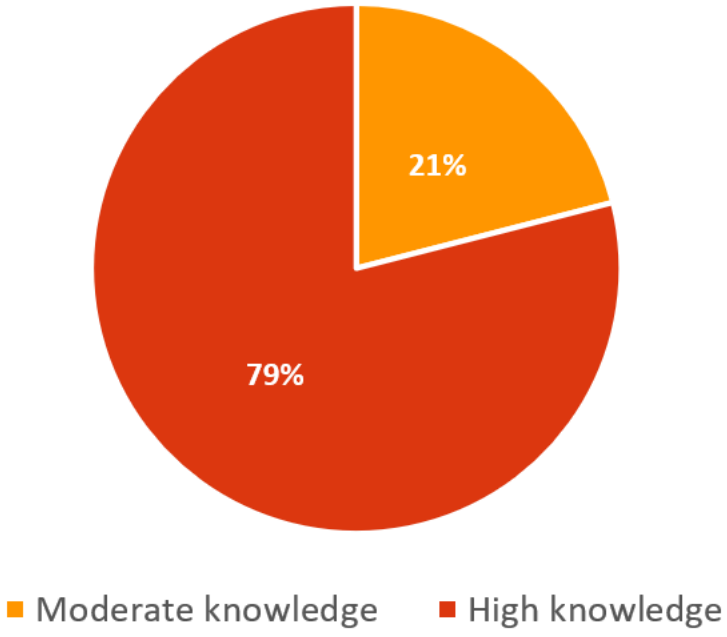

Figure 1

Level of sustainable consumption knowledge

Score of 7-9 (up to 75% of 12 questions) = Moderate knowledge, 10-12 (up to 100%) = High knowledge

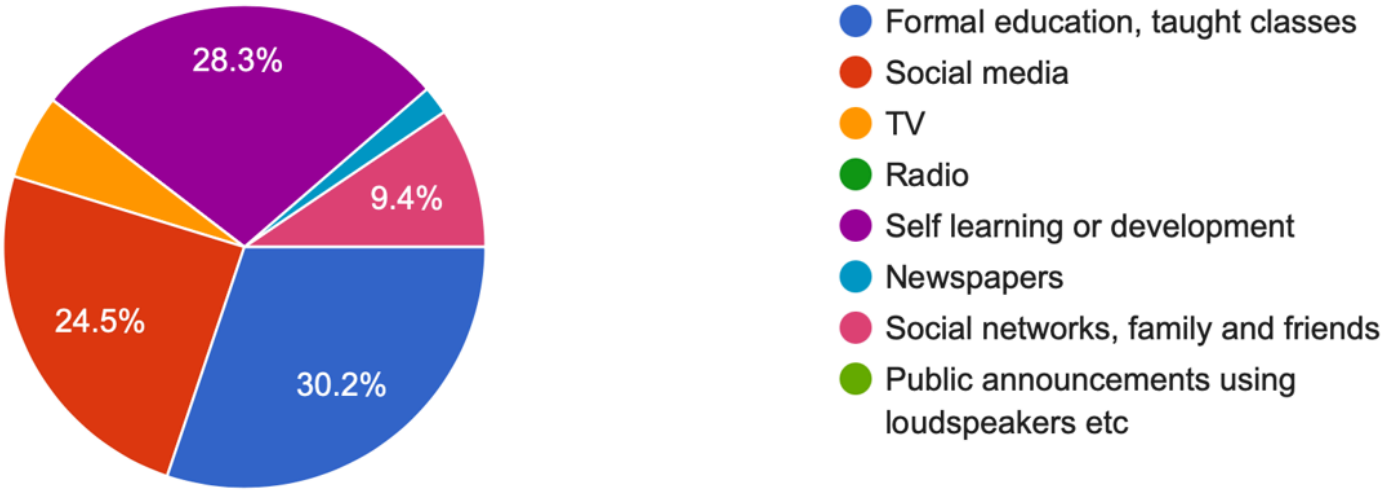

Figure 2

Primary sources of obtaining knowledge on sustainable consumption

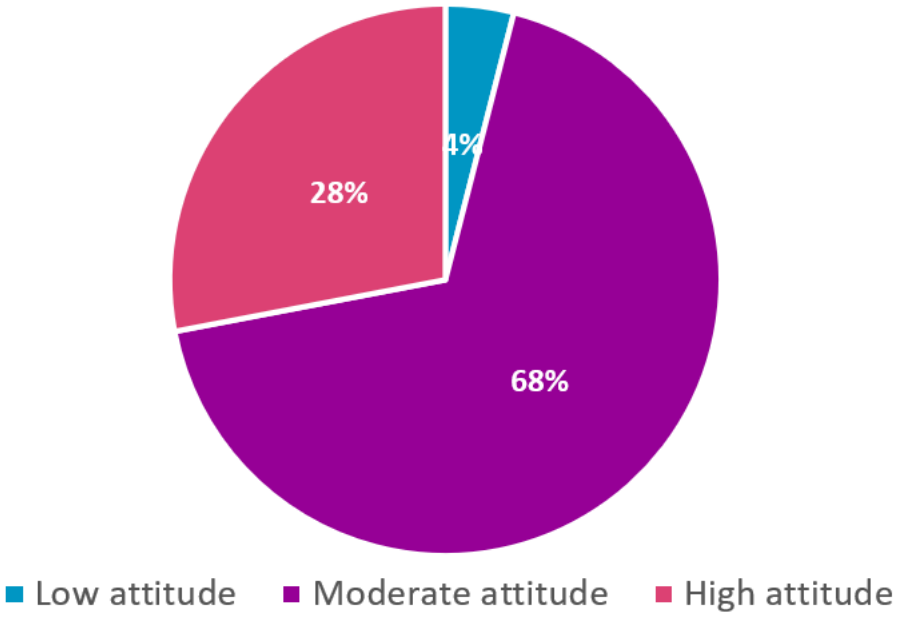

Figure 3

Levels of attitudes towards sustainable consumption

*Score of 0-30 (up to 50% of scores for 12 questions x 5-point likert scale) = Low attitude, 31-45 (up to 75%) = Moderate attitude, 46-60 (up to 100%) = High attitude.

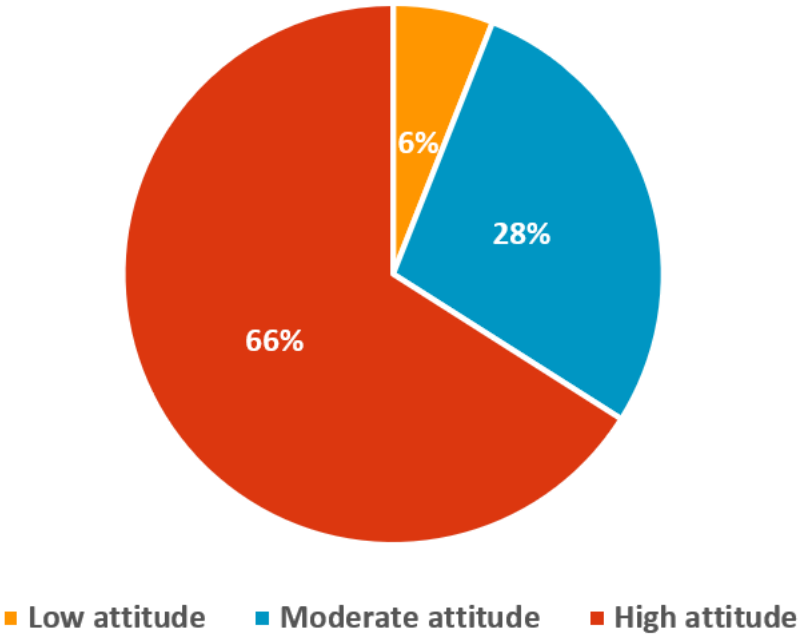

Figure 4

Levels of attitudes towards sustainable consumption related government policies

Score of 0-20 (up to 50% of scores for 8 questions x 5 point likert scale) = Low attitude, 21-30 (up to 75%) = Moderate attitude, 31-40 (up to 100%) = High attitude.

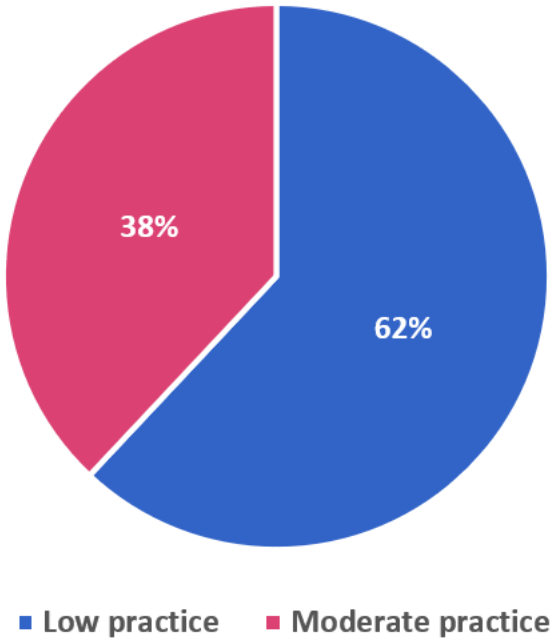

Figure 5

Levels of practice of sustainable consumption behaviors

Score of 0-50 (up to 50% of scores for 20 questions x 5 point likert scale) = Low practice, 51-75 (up to 75%) = Moderate practice