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Exposure, Perception, And Practice Of Solid Waste Management Among University Undergraduate Students In Anambra State

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Abstract

This study investigated the exposure and response of Nigerian university undergraduate students to health messages related to solid waste management. The researcher examined the exposure, perception, practices, and factors influencing proper solid waste management among undergraduate students This research is grounded in the Theory of Reasoned Action. This study employed a survey research design. The findings indicated that 74.7% of respondents reported significant exposure to messages concerning the health implications of improper waste management. Furthermore, a very high percentage of the undergraduate students were knowledgeable about the implications of poor solid waste management. Nevertheless, the majority of students did not engage in effective solid waste management practices. The study concluded that a significant disparity exists between the level of knowledge and the implementation of effective solid waste management practices among university undergraduate students in Nigeria. Therefore, the study recommends that university authorities should address all issues hindering proper solid waste practice, including providing more bins and waste dumpsites around their campuses to enhance proximity to students.

Keywords: Solid Waste Management, Health Messages, Undergraduate Students, Theory of Reasoned Action, Knowledge-Practice Gap.

Introduction

Solid waste refers to a broad category of discarded materials generated from residential, commercial, institutional, and industrial activities, including organic waste, plastics, paper, metals, glass, and hazardous substances (United States Environmental Protection Agency, 2021). In Nigeria, solid waste is defined as any garbage, refuse, sludge from a wastewater treatment plant, or other discarded material resulting from industrial, commercial, agricultural, and domestic activities (Federal Environmental Protection Agency, 1991).

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The effective management of solid waste within university settings is pivotal to promoting sustainable environmental practices, especially in rapidly urbanising regions such as Anambra State, Nigeria. University undergraduate students, often positioned at the forefront of social change, are uniquely exposed to the benefits and challenges of waste management on campus (Springer et al., 2025). Their exposure through formal curricula, extracurricular engagement, or daily observation of waste-handling facilities may profoundly influence their perceptions of environmental responsibility and practices, such as recycling, appropriate disposal, and advocacy for cleaner campus environments. In addition, the study also examined the impact of undergraduate students' behavioural intentions and disposal practices on public health and the achievement of Sustainable Development Goals (SDGs) (Springer et al., 2025). These results highlight the necessity of comprehending how educational settings influence students' awareness and readiness to participate in effective waste management.

However, while global and national data illuminate overall waste volumes and systemic challenges (for instance, Nigeria generated approximately 4.7 million tons of plastic waste in 2018 (World Bank, 2023), studies focusing specifically on the cognitive and behavioural dimensions among Anambra State's university students remain scarce. Nevertheless, broader regional research, such as analyses of impediments and optimisation strategies in Anambra waste management systems, underscores local infrastructural gaps that likely impact student engagement (Okafor & Nwankwo, 2025)

As a developing nation, Nigeria has undertaken significant initiatives to manage solid waste, including the establishment of environmental agencies across the three tiers of government. Notable among these are the National Environmental Standards and Regulations Enforcement Agency (NESREA) and the National Emergency Management Agency (NEMA). Additionally, fundamental health education is incorporated into the curriculum at both primary and secondary school levels in Nigeria. The subjects were Home Economics Management, Physical and Health Education, Integrated Science, and Biology. These subjects are health-related with themes such as cleanliness and environmental messages. Studies like Arora and Agarwal (2015) revealed that the lack of substantial environmental awareness programmes was part of the predominant environmental hazards in a developing country like India. Similar studies in Nigeria, such as Onwuzulike (2014), also revealed that environmental awareness is the key to reducing environmental hazards in Nigeria. Adeolu, Enesi, and Adeolu (2014) identified that educational status, age, and gender significantly affect waste management practices in secondary schools in Ibadan. Their study demonstrated that educational status plays a crucial role in promoting effective waste management. This study contradicts the views of some scholars who, in their studies, concluded that university students, termed as higher 'literates', keep their environment dirty.

The truth about students' conscious habit of keeping their environment clean may not only lie within the education circle, but also other personal or behavioural factors may fall in. Notwithstanding, students are seen throwing waste products from vehicles while in transit. Some were seen dropping empty water sachets, biscuit wrappings, and nylons on the floor while walking home or going to lectures. Most times, they exhibit these acts unconsciously because at the point of dropping this refuse on the floor or ground, there is a nearby refuse waste bin where they could have disposed of them properly (Onuzulike, 2007; Fakeye, Oyinlola & Odedele, 2013). Communicating environmental messages through the media or any other channel is basically to achieve

environmental literacy.

In Anambra, numerous environmental messages have been communicated, primarily by the Anambra State Waste Management Agency (ASWAMA), the principal governmental body responsible for waste management. These messages have been disseminated through mass media and various other channels. Media communications have included announcements, press releases, interviews, and talks, among others (Atupulazi, 2017). Additional methods of disseminating these environmental messages encompass road shows, posters, stickers, and leaflets. In 2019, ASWAMA initiated the 'Dobe Anambra Ocha' (keep Anambra clean) campaign. This slogan has since become the central theme of the agency's efforts to promote proper waste management within the state (Anambra State Waste Management Agency, 2019).

Statement of the Problem

In 2017, reports from the Anambra State Environmental Protection Agency (ANSEPA) and the Anambra State Waste Management Authority (ASWAMA) highlighted a persistent escalation in environmental challenges, particularly in solid waste management. This escalation has directly contributed to university undergraduates indiscriminately dumping waste on campus, exacerbating pollution and unsanitary conditions. Urbanisation, increased population density, and the expansion of industrial and commercial activities have intensified waste generation, overwhelming existing waste management systems. On average, approximately 0.43 kg of solid waste is generated per person daily in Nigeria, and a significant 87% of the Nigerian population is exposed to the risks associated with inadequate solid waste management. Furthermore, there has been a notable increase in the number of students seeking medical attention in school clinics or other healthcare facilities, which may be linked to the unsanitary conditions of their surroundings (Oyediran, as cited in Ojo, 2012).

Environmental cleanliness is predominantly influenced by factors such as family dynamics, peer interactions, educational experiences, cultural backgrounds, and socialisation processes. During formative years, children are instructed in various environmental cleanliness practices both at home and in educational settings, including subjects like Home Economics and Health Education. As a result, by the time they reach tertiary education, it is expected that they possess documented knowledge, awareness, and skills pertinent to effective environmental cleanliness. Nevertheless, significant concern in the realm of environmental well-being arises from the observation that tertiary-level students, who are presumed to be well-informed, continue to contribute to campus pollution through the improper disposal of solid waste.

Against this backdrop, the study examined the exposure, perception, and practice of solid waste management among university undergraduate students in Anambra State.

Research Questions

1. To what extent are university undergraduate students in Anambra State exposed to messages regarding the health implications of improper waste management?
2. To what extent do undergraduate students comprehend messages concerning the health consequences of improper waste management?
3. To what extent do undergraduate students practice proper solid waste management?

Research Objectives

1. To assess the extent of exposure of university undergraduate students in Anambra State to messages about the health implications of improper waste management.
2. To evaluate the level of comprehension among undergraduate students regarding the health consequences of improper waste management.
3. To examine the extent to which undergraduate students practice proper solid waste management.

Solid Waste Management

Solid waste management (SWM) represents a comprehensive approach to the collection, transportation, processing, recycling, and disposal of solid materials that are no longer useful (Ion Exchange, 2025). This process encompasses all stages of the waste chain, beginning with generation, followed by segregation, collection, transfer, treatment, recycling, and recovery, and culminating in final disposal (Emergency, WASH, 2025). SWM involves the systematic collection and treatment of solid waste, focusing on transforming waste into a valuable resource. It provides solutions for recycling items that should not be discarded as garbage or trash (Bakare, 2016). According to the Encyclopedia Britannica (2019), solid waste management involves the collection, treatment, and disposal of solid material that is discarded after serving its purpose or becoming obsolete. In numerous countries, recycling activities have garnered increased attention as a strategy for environmental protection and waste reduction. Some scholars contend that recycling offers both economic and ecological solutions for waste disposal management (Omran, Mahmood, Aziz & Robinson, 2009). In Nigeria, no state, city, or town can claim success in addressing environmental hazards. Urban and semi-urban areas, characterised by high population densities, have yet to find a sustainable solution to the challenges posed by filth and accumulated solid waste (Mba, 2003). In Nigeria, household waste is not effectively disposed of; rather, it is relocated to different areas where its nuisance is perceived as less harmful. Furthermore, residential areas, markets, waterways, highways, streets, and undeveloped plots of land have become waste dumps for many households (Adeolu et al., 2014).

Solid Waste Management in Anambra State

Research has investigated the potential impact of effective waste management on environmental sustainability in Anambra State (Amuda, Adebisi, Jimoda & Alade, 2014; Ndubuisi-Okolo, Anekwe & Attah, 2016; Okoye, 2017). Over several years, the persistent issue of inadequate waste management in Anambra State may be attributed to a lack of political will, as articulated by Okoye (2017) in a study focused on waste

management in the region.

Psychologically, people react to a particular behaviour based on the condition they are placed in. The habit of improper waste disposal can also be viewed from a behavioural perspective. Many people do not practice proper environmental habits because of the unavailability of refuse dumps, irregular time for waste collection in Anambra State, and many other factors, as discussed above. This condition leads people to dispose of waste at their convenience, thereby practising the wrong environmental behaviour.

The challenge of solid waste management in Anambra State is analogous to that encountered in major urban centres throughout Nigeria. The predominant method of solid waste disposal in Anambra State is open dumping. These disposal sites lack environmental controls and oversight, making them the least desirable option due to their proximity to residents (Ogwueleka, 2009; Obi, Orga & Ogadimma, 2018).

Fig 1: A waste disposal point at Awka, Anambra State, with refuse littering the surrounding ground

The accumulation of refuse on the roads in areas such as Onitsha, Awka, Nnewi, and their environs impedes traffic flow and is frequently incinerated openly by the roadside, neglecting the environmental repercussions and health hazards posed to the local populace. As observed by Ogwueleka (2009), open dumping of waste is not a sustainable long-term environmental disposal strategy; thus, it constitutes a significant challenge to the sustainability of solid waste management in Anambra State.

According to the United Nations (2009), environmental laws constitute a comprehensive set of rules and regulations. The inception of environmental legislation in Anambra State was marked by the establishment of the Anambra State Environmental Sanitation Agency (ASESA). In 1985, the Anambra State Environmental Sanitation Authority (ASESA) was created, thereby transferring this responsibility from the Local Government. Subsequently, in 1991, the Federal Environmental Protection

Agency (FEPA) was established, along with guidelines and standards for its operations. This development led to a directive from the Federal Government mandating each state within the federation to establish its own environmental protection agency.

In response to the Federal Government's directive for each state government to establish its own environmental protection agency, the Anambra State Environmental Protection Agency (ANSEPA) was founded in 1998, succeeding ASESA. Consequently, solid waste management was incorporated into ANSEPA's responsibilities until 2011, when the Anambra State Waste Management Authority (ASWAMA) was created to assume the role of waste management within the state.

Therefore, the functions of ASWAMA, according to the Anambra State Waste Management Law (2011), are:

- Conduct street cleaning and manage the removal, collection, and disposal of domestic, commercial, and industrial waste.
- The removal and disposal of animal carcasses from public areas.
- Develop and revise comprehensive master plans for waste collection and disposal in the cities, towns, and villages within the State, and oversee the management of the resultant waste system throughout the state.
- Approve and monitor all waste disposal systems in the state.
- Facilitate waste management services for state agencies, local governments, industries, business entities, and private individuals within the state by accepting waste at the Authority's facilities in accordance with a contractual agreement between the Authority and the respective party.
- Issuing, renewing, and revoking licenses of private waste collectors.

Fig 2: Refuse disposal bin around the UNIZIK campus, Ifite, Awka, Anambra State.

Fig 3: A refuse dump at the Great Karis Lodge, students' hostel at the Uli Campus of Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria.

Theoretical Framework

Reasoned Action Theory

The study is grounded in the Theory of Reasoned Action (TRA). The Theory of Reasoned Action (TRA) forecasts an individual's fundamental motivation and intention to engage in a behaviour at a specific time and place. It asserts that individual behaviour is influenced by behavioural intentions, which are determined by three factors: an individual's attitude (self-perception regarding the behaviour), subjective norms (perceptions of others regarding the behaviour), and perceived behavioural control (self-efficacy concerning the behaviour) (Ajzen, 1991).

Popularised by Icek Ajzen and Martin Fishbein in 1975 and later advanced by Icek Ajzen in 1991 in his work "Predicting and Explaining Volitional Behaviour: A Theory of Reasoned Action", TRA, which is often used interchangeably with Theory of Planned Behaviour (a modified form of TRA which particularly takes into account perceived, as well as actual control over the behaviour under consideration, Ajzen 1991; Hartwick & Barki) posits that individual actions or behaviours are usually reasoned, planned, and predetermined in line with expected outcomes or results. The theory comprises three primary components: Behavioural Intentions (BI), Attitudes (A), and Subjective Norms (SN). The central premise of the theory posits that actions undertaken in response to anticipated tasks or expected events are determined by planned actions rather than spontaneous reactions. Consequently, the theory of reasoned action can provide highly accurate predictions of intentions and behaviours that are under volitional control.

The theory of reasoned action suitably provides a theoretical perspective and background to understanding the current research effort and thus is appropriate for the study. A student is more likely to dispose of solid waste if he/ she think properly disposing of the waste is a morally correct behaviour. Also, students' experience towards proper waste disposal could predict future behaviour. In addition, situational factors such as inconvenience or the stress of walking some meters away to locate the bin play an important role in students' intention to dispose of waste properly. Again, the inability of the authorised agencies to teach and create awareness of the environment regularly and promptly could aggravate poor waste management. Therefore, these

authorised agencies should make a more convenient to carry out their duties or enlighten the public.

Empirical review

Adegbore et al. (2025) examined the predictive factors influencing waste disposal behaviours among university undergraduate students, highlighting the implications for public health and the achievement of sustainable development goals. The researchers conducted a cross-sectional KAP study among undergraduate students. They found generally good knowledge and positive attitudes, with good self-reported practice for many behaviours, but notable gaps in sorting/separation and persistence of indiscriminate disposal and open burning. Regression analysis indicated that the type of waste generated predicted practice, and gender was associated with attitudes. The authors highlighted self-report bias and limited generalizability as the key limitations of their study.

Opaleye (2021) investigated the perceptions of undergraduate students regarding waste disposal practices at Obafemi Awolowo University, Ile-Ife, Nigeria. Employing a mixed-methods descriptive survey, which included both observations and interviews, the study involved 277 undergraduate student participants to assess their attitudes towards waste disposal, their perceptions of the campus waste management system, and their level of awareness. Despite a generally positive appraisal of the university's waste-collection system (94% rated it good/very good), 86% of students exhibited poor disposal attitudes (e.g., dumping in bushes, gutters, and roads), and only 30% reported high awareness of waste management, while 48% had average awareness (Tables 1–3). The study suggests that school management should create awareness of the need for proper waste disposal.

Obuah and Okon (2017) examined communication strategies to evaluate their effectiveness concerning compliance by residents in Rivers State, Nigeria. The study employed a survey methodology utilising multi-stage cluster sampling. The sample size for the two segments of the population, determined using a sample size calculator, was 181 for RIWAMA staff and 385 for Port Harcourt residents, with a 5% margin of error and a 95% confidence level. The findings indicated a notably high level of awareness of RIWAMA campaigns among residents. However, this awareness did not correspond to a similar level of compliance with waste disposal procedures.

Ahmad, Noor, and Ismail (2015) conducted an investigation into the relationship between students' environmental knowledge, attitudes, and practices, as well as the effective communication of environmental messages. A Knowledge, Attitude, and Practice (KAP) survey was administered to 895 students from 16 higher education institutions in Malaysia. The findings indicated that, in general, students possessed a good level of environmental knowledge. However, this knowledge did not necessarily translate into practice. Similarly, there was a weak correlation between students' attitudes and sustainable environmental practices. The study also suggested that the internet, as the students' preferred medium, should be utilised to disseminate environmental information.

Anatsui and Adekanye (2015) investigated the role of mass media in enhancing consciousness, awareness, education, and knowledge regarding environmental issues, problems, and challenges in Nigeria. The study employed quantitative data analysis,

with raw data collected from respondents and analysed using simple percentages. A purposive random sampling technique was utilised to select 50 final-year students from the Mass Communication Department at Babcock University, regardless of gender or ethnic background. The findings indicated that mass media serve as a powerful instrument, and their effective use can mitigate environmental pollution in Nigeria. Furthermore, the study suggests that journalists should encourage public engagement and foster a sense of ownership regarding societal environmental problems.

Yasmina (2015) investigated the determinants influencing students' behavioural intention to recycle at the University of Twente, employing the theory of planned behaviour as the theoretical framework. An online questionnaire was disseminated via email and social networking platforms among University of Twente students, with 116 students participating. The subsequent multiple regression analysis indicated that the overall model effectively predicts students' intention to recycle. Factors such as perceived moral obligation, past behaviour, and inconvenience were significant predictors of the intention to recycle, whereas attitude, subjective norm, and perceived behavioural control did not significantly predict students' recycling intentions. The study recommended increasing the sample size by distributing an additional paper questionnaire and suggested measuring actual recycling behaviour through an observational study.

The empirical literature review presented above indicates that numerous studies have been conducted on solid waste management throughout Nigeria. However, as identified by the researcher, none of these studies has specifically focused on university campuses in Anambra State, Nigeria. The researcher has identified this as a knowledge gap, which the present study seeks to address.

Methodology

The survey research methodology was used to carry out this study. Surveys are a quantitative research technique primarily utilised in studies about people. The study population comprised all undergraduate students enrolled in selected universities within Anambra State, South-East Nigeria, during the 2023/2024 academic session. The institutions and their respective student populations were as follows: Chukwuemeka Odumegwu Ojukwu State University, Igbariam, with 16,700 students; Madonna University, Okija, with 6,100 students; Nnamdi Azikiwe University, Awka, with 34,650 students; Paul University, Awka, with 723 students; Tansian University, Umunya, with 4,365 students; and Legacy University, Okija, with 1,203 students. The total population across these selected institutions was 63,741 students.

Table 1: The population of the selected institutions in Anambra State

S/N	Institution	Ownership	Student population
1	Chukwuemeka Odumegwu Ojukwu State University, Igbariam	State	16, 700
2	Madonna University, Okija	Private	6, 100
3	Nnamdi Azikiwe University, Awka	Federal	34, 650
4	Paul University, Awka	Private	723
5	Tansian University, Umunya	Private	4, 365
6	Legacy University, Okija	Private	1, 203
Total			63, 741

Source: Registries of the institutions, 2021

The sample size was determined using the formula proposed by Comrey and Lee (1992), which provides a scale for assessing sampling adequacy as follows: 100 is considered Poor, 200 Fair, 300 Good, 500 Very Good, and 1,000 Excellent.

The researcher consequently determined a sample size of 500. A multi-stage sampling procedure was employed. In the initial stage, the sole federal university within the study area, Nnamdi Azikiwe University, Awka, was automatically selected. Similarly, the only state university, Chukwuemeka Odumegwu Ojukwu University, Igbariam, was also chosen. Subsequently, among Madonna University, Okija, Paul University, Tansian University, and Legacy University, a random sampling method was utilised to select one university.

In the second phase, two faculties were randomly selected from each of the three previously identified universities as follows: Nnamdi Azikiwe University (Biological Sciences and Arts), Chukwuemeka Odumegwu Ojukwu University (Social Sciences and

Education), and Madonna University (Management Sciences and Arts).

In the third stage, two departments were randomly selected from each faculty as follows: the Faculty of Biological Sciences at UNIZIK (Microbiology and Biochemistry), the Faculty of Arts at UNIZIK (English Language and Theatre Arts); the Faculty of Social Sciences at Chukwuemeka Odumegwu Ojukwu University (COOU) (Mass Communication and Psychology), the Faculty of Education at COOU (Educational Foundation and Guidance & Counselling); the Faculty of Management Sciences at Madonna University (Business Administration and Accountancy), and the Faculty of Arts at Madonna University (Linguistics and Religion).

In the fourth stage, the researcher employed a predetermined formula to select a specific number of respondents from each of the three universities, thereby ensuring proportional representation.

$$R = \frac{I \ x \ S}{N}$$

Where R = number of respondents allotted to an institution

I = student population of the institution

N = total population of the three institutions sampled

S = sample size

Nnamdi Azikiwe University:

$$\frac{34{,}650 \ x \ 500}{57{,}450} = 302$$

Chukwuemeka Odumegwu Ojukwu University:

$$\frac{16{,}700 \ x \ 500}{57{,}450} = 145$$

Madonna University:

$$\frac{6{,}100 \ x \ 500}{57{,}450} = 53$$

Total: 500

Data Presentation and Analysis

Of the 500 questionnaires distributed to respondents, 474 were returned, representing a response rate of 94.8%, while 26 were not returned, accounting for a non-response rate of 5.2%. The questionnaires were administered in various classrooms across the selected universities in Anambra State. Therefore, the analysis is based on 474. The demographic data of the respondents showed that there were more female respondents

(65.4%) than male respondents (34.2%). Also, the age range of 20 – 24 years (46.8%) was more in the study, while the least is the age range is 30 years and above (11%). Data collected were analysed using the Statistical Package for Social Sciences (SPSS), which facilitated descriptive and inferential statistical analyses to address the research questions and objectives

Table 2: Respondents' Exposure to Messages on Health Implications of Improper Waste Management

	Frequency	Percentage
Yes	354	74.7%
No	114	24.1%
No Answer	6	1.3%
Total	474	100%

Data in Table 2 shows that most (74.7%) of the respondents were exposed to messages on the health implications of improper waste management.

Table 3: Respondents' Perception of Messages on Health Implications of Improper Solid Waste Management

	Do you perceive messages you encountered on the health consequences of improper solid waste management as factual?	Do you perceive messages you encountered on the health consequences of improper solid waste management as clearly expressed?	Do you perceive messages you encountered on the health consequences of improper solid waste management as relevant to the environmental and/or health issues experienced in your locality?	Do you think the messages you encountered on the health consequences of improper solid waste management would generally prove useful for individual and community healthy living?
To a large extent	48.9% N = 232	34.2% N = 162	54.4% N = 258	57.8% N = 274

To some extent	38% N = 180	52.7% N = 250	36.7% N = 174	30.8% N = 146
To a little extent	6.8% N = 32	8% N = 38	4.6% N = 22	5.9% N =28
Never	3.8% N = 18	2.1% N = 10	3.0% N = 14	4.2% N = 20
No Answer	2.5% N = 12	3% N = 14	1.3% N = 6	1.3% N = 6
Total	100% N = 474	100% N = 474	100% N = 474	100% N = 474

Data in Table 3 shows that the respondents perceived the messages as factual, relevant, and useful to individuals and the collective society.

Table 4: Respondents' Practice of Proper Solid Waste Management

	Do you empty this bin timely, making use of the publicly provided disposal bins or sites?	Do you	Do you	Do you	Do you ensure that you do not drop solid waste along the roads/ ways/ gutters?	Do you ensure that you do not drop solid waste at other unauthorised places ?
Always	65% N = 308	60.8% N = 288	46% N = 218	39.7% N = 188	47.3% N = 224	43% N = 204

Sometimes	27.8% N = 132	35% N = 166	36.7% N = 174	38.4% N = 182	43.5% N = 206	39.2% N = 186
Rarely	4.6% N = 22	3.0% N = 14	12.7% N = 60	15.6% N = 74	4.2% N = 20	11.4% N = 54
Never	1.7% N = 8	0.4% N = 2	3.0% N = 14	5.9% N = 28	2.5% N = 12	4.6% N = 22
No Answer	0.8% N = 4	0.8% N = 4	1.7% N = 8	0.4% N = 2	2.5% N = 12	1.7% N = 8
Total	100% N = 474	100% N = 474	100% N = 474	100% N = 474	100% N = 474	100% N = 474

Table 4 reveals that a substantial proportion of respondents engage in effective solid waste management within their residences or hostels.

Discussion of Findings

The first research question aimed to evaluate the extent of exposure to messages concerning the health implications of improper waste management among university undergraduate students in Anambra State. The findings indicated a high level of exposure to messages regarding the health implications of improper solid waste management among these students. Despite possessing substantial knowledge of the health implications associated with improper waste disposal, undergraduate students generally perceive these implications at an average level. In the context of behaviour change communication, awareness is acknowledged as essential for attitude transformation and, ultimately, behaviour modification, which is crucial for achieving optimal health and environmental stability (Lucas, 2008 & Okoye, 2017). This suggests that individuals must acquire the necessary information to make informed judgments (positive attitude) and subsequently engage in appropriate actions (positive practice).

The second research question aimed to investigate undergraduate students' perceptions of messages concerning the health consequences of improper waste management. Data in Table 3 showed that the respondents perceived the messages as factual, relevant, and useful to individuals and the collective society. People are more likely to have greater practice of proper waste management if the major factor listed above is tackled (Kronrod, Grinstein & Wathieu, 2012; Kaoje et al., 2017).

The third research question sought to assess the level of practice of proper solid waste management in Anambra State. The data in Table 4 indicated that a good number of respondents practised proper waste disposal because they owned waste bins, This finding aligns with the Theory of Reasoned Action (Ajzen, 1991), which posits that perceived behavioural control such as the availability of facilities influences whether intentions are translated into actual behaviour. Supporting this, Ahmad, Noor, and Ismail (2015) reported that despite adequate environmental knowledge, practical adherence to sustainable behaviours frequently lags due to barriers like limited access to facilities or convenience. The observed discrepancy between knowledge and practice in this study underscores the critical role of enabling conditions in fostering effective waste management behaviours.

Conclusion

Based on the findings of this study, it can be concluded that although university undergraduate students in Anambra State possess substantial exposure to and knowledge of the health implications associated with inadequate solid waste management, their actual practices in managing solid waste do not align with their level of exposure and knowledge. Consequently, a discrepancy persists between their awareness and the implementation of effective waste management practices.

Recommendations

Considering the study's findings, the following recommendations have been proposed:

1. The study recommends that university authorities address all issues impeding effective solid waste management. This includes the provision of additional bins and waste disposal sites on campuses to improve accessibility for students.
2. It is imperative to educate the populace on the importance of maintaining a clean and healthy environment.
3. It is advisable for educational institutions to organise seminars and conferences focused on strategies for preventing improper waste management.

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