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SOCIO-CULTURAL AND ECONOMIC DETERMINANTS OF PUBLIC PERCEPTION AND ATTITUDE TOWARDS OPEN DEFECATION IN UYO CAPITAL CITY, AKWA IBOM STATE, NIGERIA

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Abstract

Background: *Open defecation remains a major public health challenge in Nigerian cities despite commitments to eliminate it by 2030.*

Objective*: This study examined socio-cultural and economic factors influencing perception, attitude, and practice of open defecation among residents of Uyo Capital City, Akwa Ibom State, Nigeria.*

Methods: *A cross-sectional survey of 345 respondents from 384 questionnaires administered across urban, semi-urban, and rural zones was conducted using stratified and systematic random sampling. Data were analyzed using descriptive statistics, Chi-square tests, and binary logistic regression, supported by a Focus Group Discussion with nine participants.*

Results*: Poverty ($\chi^2 = 20.15$, $p < 0.001$), cultural beliefs ($\chi^2 = 12.56$, $p < 0.01$), education ($\chi^2 = 14.09$, $p = 0.007$), occupation ($\chi^2 = 51.00$, $p < 0.001$), age ($\chi^2 = 23.45$, $p = 0.024$), and household income ($\chi^2 = 15.67$, $p < 0.01$) were significantly associated with open defecation. Farmers, fishers, and unemployed persons had the highest predicted probabilities (66–73%).*

Conclusion: *Open defecation in Uyo is driven more by economic disadvantage and cultural norms than ignorance. The study recommends poverty-sensitive, occupation-targeted interventions and sustained public education*

Keywords: *Open defecation; public perception; socio-cultural factors; poverty; household income*

Introduction

Open defecation is the practice of passing human waste outside designated sanitary facilities such as latrines or toilets and it remains a widespread public health and environmental problem across much of the developing world, including Nigeria (WHO, 2018; Federal Ministry of Water Resources [FMWR], 2021). Sustainable Development Goal (SDG) target 6.2 explicitly calls for an end to open defecation and universal access to adequate sanitation by 2030, reflecting global recognition that the practice undermines human dignity, child nutrition and community health (FMWR, 2021). In Nigeria, an estimated 48 million people, about 23% of the population, concentrated in rural areas and the poorest income quintile defecate in the open, a proportion that has changed little since the SDGs were adopted (FMWR, 2021). Progress has nonetheless been recorded in some states, notably Jigawa, which was declared Nigeria's first open-defecation-free (ODF) state in 2022, alongside partial gains in Kano, Kaduna, Anambra and Cross River States, largely through the Community-Led Total Sanitation (CLTS) approach. In Akwa Ibom State, however, roughly 56% of residents have access to basic sanitation services and about 11% still practise open defecation (FMWR, 2021).

Public perception and attitude are central to understanding why open defecation persists even where sanitation facilities exist. Perception refers to how individuals or groups interpret and evaluate the act of defecating in the open, while attitude reflects the feelings, beliefs and dispositions that shape intentions to engage in or avoid the practice (Ajzen, 1991). Where open defecation is viewed as normal, convenient or culturally acceptable, it tends to persist; where it is viewed as unsanitary or shameful, residents are more likely to seek alternatives such as latrines (Jenkins and Curtis, 2005). These perceptions and attitudes are, in turn, shaped by socio-cultural factors – including cultural norms, religious beliefs, educational attainment and social conventions – and by economic factors such as poverty, household income, occupation and the cost of constructing and maintaining toilets (Akpabio *et al*., 2015; Inah *et al*., 2023).

Prior studies in Nigeria have tended to focus on the health and environmental consequences of open defecation rather than on the underlying social and economic drivers of the practice, and few have examined these dynamics specifically within Uyo, the capital of Akwa Ibom State. This study addresses that breach by examining how socio-cultural and economic factors shape public perceptions, attitudes and practices of open defecation among residents of Uyo Capital City. The persistence of open defecation despite decades of investment reflects a broader global pattern in which infrastructure provision alone has proven insufficient to change entrenched sanitation behaviour. International experience under the Community-Led Total Sanitation (CLTS) approach, which relies on triggering collective disgust and shame around open defecation rather than subsidising individual latrine construction, has shown that behaviour change is most durable when driven by community-level social dynamics rather than externally imposed infrastructure. This suggests that understanding the specific social, cultural and economic calculus that residents of a given community apply to open defecation is a necessary precursor to designing an intervention

likely to succeed, reinforcing the rationale for a locally grounded study of Uyo Capital City rather than reliance on generic national or regional evidence.

Nigeria's federal structure further complicates uniform progress: because water, sanitation and hygiene service delivery is substantially a state and local government responsibility, sanitation outcomes vary considerably across states even under a common national roadmap, with Akwa Ibom State's own trajectory including a documented regression in access to basic hygiene services between 2019 and 2021, during which the proportion of residents defecating in the open rose from an estimated 4% to 11% underscoring that progress on this indicator is neither automatic nor irreversible (FMWR, 2021). This regression, occurring despite the existence of a state-level roadmap and legal framework, itself motivates closer empirical attention to the demand-side (perception, attitude and economic capacity) drivers of the practice, which is the focus of this study.

Cultural conventions, belief systems, religious affiliation, health concerns, education, social and economic standing all shape how the public perceives and feels about open defecation, and the evidence indicates that these perceptions vary considerably by context. Anuradha *et al.* (2017) found that open defecation is regarded as a normal, deeply embedded habit in rural India, sustained by a combination of cultural, hereditary and lifestyle factors rather than by a lack of awareness of its risks. In a Nigerian setting, Inah *et al.* (2023), studying Ussa Local Government Area in Taraba State, found that 52.6% of respondents held a positive perception of open defecation against 47.4% who viewed it negatively, and attributed this split to differences in belief systems, cultural custom, superstition and religious affiliation; notably, 64.6% of their respondents defecated in the open regularly and 78.6% had done so at least once, a pattern the authors linked to ancestral and lifestyle factors and consistent with Verma's (2017) findings in rural India. Religious teaching has also been identified as a potential lever for behaviour change. Islamic teaching places strong emphasis on cleanliness, with open defecation regarded as religiously impermissible, while Christian scripture, notably Deuteronomy 23:13, which instructs believers to bury waste when defecating outdoors, has similarly been invoked as a moral basis for sanitary behaviour (Nyatsikor, 2024). This suggests that religious institutions and leaders, through sermons and community engagement, could function as trusted channels for hygiene messaging in strongly religious contexts such as Akwa Ibom State.

A substantial body of evidence links open defecation to household economic status. Abubakar (2018) found that Nigeria's wealth index has a major bearing on open defecation practices, with the wealthiest households least likely to defecate in the open, followed by middle-income households, while the poorest households account for the majority of open defecation cases nationally. This finding is corroborated across multiple country contexts: Kiriga and Kainyu (2000) found that in South Africa, each unit increase in household income was associated with a 0.1% decline in the probability of open defecation, while similar wealth–sanitation gradients have been reported in other developing-country settings. O'Connell (2014) further noted that both open

defecators and latrine owners frequently cite construction cost as a barrier, and that the perceived (sometimes overestimated) cost of building a latrine itself discourages households, particularly low-income rural households, from abandoning open defecation, with affordability shaped by household income, cash flow, seasonal factors and the availability of low-cost sanitation options in the community.

Occupation-linked exposure and income instability compound these poverty effects. Households engaged in farming, fishing or informal labour typically have lower and less predictable incomes than salaried households, and often work or reside in proximity to farmland, forests or water bodies where open defecation is both more feasible and less visible, a pattern that helps explain why occupational category, independent of income alone, is strongly predictive of open defecation practice in Nigerian contexts. Education has consistently been identified as protective against open defecation. Ohwo (2019) found that household heads with more than secondary education were markedly less likely to engage in open defecation than those with lower educational attainment, a relationship attributed both to greater awareness of the health risks associated with the practice and to the tendency for higher education to correlate with higher socio-economic status and, consequently, greater ability to afford improved sanitation. The public health stakes of this relationship are considerable: diarrhea disease, closely linked to unsafe excreta disposal, is the second leading cause of death among Nigerian children under five after pneumonia, with the World Health Organization attributing approximately 88% of diarrhoea cases to inadequate management of human waste (WHO, cited in FMWR documentation), and a 2012 World Bank estimate placing Nigeria's annual diarrhoea-related deaths at approximately 121,800, including 87,000 children under five. Okafo and Nwude (2016) further documented the indirect economic costs of open defecation, noting that households frequently incur significant treatment expenses and lose productive time to illness caused by unsafe sanitation.

This study draws on three complementary behavioural theories to interpret the socio-cultural and economic patterns observed: the Health Belief Model, the Theory of Planned Behaviour, and Social Cognitive Theory. Rosenstock's (1966) Health Belief Model proposes that health-related behaviour is shaped by perceived susceptibility to a health threat, perceived severity of that threat, perceived benefits of taking protective action, and perceived barriers to doing so. Applied to open defecation, the model suggests that residents who underestimate their susceptibility to diseases such as cholera, typhoid and diarrhoea or who perceive these illnesses as insufficiently serious will have little motivation to change their sanitation behaviour, even when they possess accurate knowledge of the practice's risks in the abstract. Perceived barriers, such as construction cost, land scarcity or poor latrine design, frequently outweigh perceived benefits in the calculus of affected households; Orivi (2023) similarly found that low risk perception combined with high perceived barriers significantly impedes latrine adoption. The HBM therefore points toward interventions that simultaneously raise risk awareness and reduce structural barriers through subsidy or technical assistance, rather than relying on awareness-

raising alone.

Ajzen's (1991) Theory of Planned Behaviour holds that behaviour is shaped jointly by attitudes toward the behaviour, subjective norms (perceived social expectations), and perceived behavioural control (perceived capacity to perform the behaviour). Nnindini (2023) found that households' intentions to abandon open defecation in Ghana were significantly shaped by both perceived behavioural control and subjective norms, demonstrating that even residents who recognise the benefits of latrine use may continue open defecation if they perceive strong social or institutional constraints against change. This is directly relevant to the cultural findings of the present study: residents may hold broad negative attitudes toward open defecation while nonetheless continuing the practice where social norms or resource constraints render alternatives difficult to access. Bandura's (1986) Social Cognitive Theory frames behaviour as the product of a reciprocal interaction among personal factors, environmental circumstances and behaviour itself, with observational learning, self-efficacy, outcome expectations and reinforcement as core mechanisms. Because sanitation behaviour is strongly social, households often model their practices on those of respected neighbours; SCT underlines why community-driven approaches such as Community-Led Total Sanitation (CLTS), which rely on public demonstration and peer reinforcement, tend to be more effective than individually targeted messaging alone (Lopez, Winter and Barchi, 2019). Comparable studies from other developing-country contexts lend further weight to the socio-cultural and economic determinants identified above. Sarkingobir *et al.* (2017) documented that fear of sexual harassment and animal attack while defecating in the open contributes to reduced school enrolment and attendance among girls in rural settings, reinforcing that the social costs of open defecation are unevenly distributed and disproportionately borne by already vulnerable groups. Bello *et al.* (2025) identified a comparable cluster of cultural and socio-economic determinants in a separate Nigerian sample, including taboos against confined defecation, beliefs that children's faeces are harmless, continuation of ancestral custom, restrictions on girls' latrine use during menstruation, and constraints on funds and labour for toilet construction, findings broadly consistent with the socio-cultural and economic patterns identified in the present study for Uyo Capital City. Studies have indicated that open defecation is rarely reducible to a single cause: cultural norms and religious belief shape how the practice is perceived and evaluated; poverty, household income and occupation determine the material capacity of households to adopt and sustain alternatives; and education shapes both risk awareness and the socio-economic standing that enables behaviour change. The Health Belief Model, Theory of Planned Behaviour and Social Cognitive Theory together suggest that awareness campaigns alone are unlikely to be sufficient where structural economic barriers or social norms remain unaddressed.

Despite government and development-partner efforts to expand sanitation coverage, open defecation remains widespread in Akwa Ibom State, particularly in Uyo, the state capital (WASHNORM, 2021). Legal and policy instruments including the Akwa Ibom State Water

Resources Sector Oversight and Regulation Law 2022, the Akwa Ibom State WASH Policy 2025, and the state's Roadmap to End Open Defecation by 2030 have been enacted to curb the practice, yet donor supported interventions to date have concentrated on four local government areas (Ikono, Esit Eket, Obot Akara and Nsit Atai) under the European Union/UNICEF Niger Delta Support Programme (2013–2018), with limited direct targeting of Uyo itself. A major reason these interventions have had limited effect is the absence of adequate empirical evidence on the specific socio-cultural and economic factors driving residents' perceptions, attitudes and practices of open defecation in Uyo. Without this understanding, policymakers and implementing agencies risk designing generic interventions that fail to address structural drivers such as poverty, livelihood type and cultural beliefs that sustain the practice locally. This study was designed to generate such evidence by determining the socio-cultural and economic factors, including culture and tradition, poverty and educational awareness, that influence public perception and attitude towards open defecation in Uyo Capital City; as well as examine the relationship between selected demographic and economic variables (age, education, occupation and household income) and the practice of open defecation in the study area.

Materials and Methods

Study Area

Uyo Capital City, the administrative capital of Akwa Ibom State, Nigeria, lies between latitudes 4° 58′ N and 5° 04′ N and longitudes 7° 51′ E and 8° 01′ E in Nigeria's south-south geopolitical zone. It covers approximately 214.31 km² and is bordered by Ikono, Itu and Ibiono Ibom local government areas (LGAs) to the north, Uruan LGA to the east, Abak LGA to the west, and Ibesikpo Asutan and Nsit Ibom LGAs to the south (Ekpenyong et al., 2020). The city is accessible via Abak Road, Nwaniba Road, Ikot Ekpene Road, Aka Nung Udoe Road, Oron Road and the Calabar–Itu–Uyo Road. Uyo lies within the Niger Delta region and is characterised by a flat to gently sloping and dissected topography of gullies, ravines and v-shaped valleys separated by erosional remnants, with elevations ranging from 10 to 50 metres above sea level (Usoro, 2010). The city is underlain by tertiary to recent continental sands and clays of the Benin Formation (also known as the Coastal Plain Sands), comprising loose, friable, porous and poorly sorted sands, sandy clay, clayey sand and pebbly sand with occasional conglomeratic bands, a geology that, combined with a generally high water table, renders parts of the city vulnerable to flooding and complicates the excavation of deep pit latrines in low-lying areas. The population of Uyo Capital City was projected at about 1.3 million as of 2023, growing at roughly 3.2% annually, with substantial rural–urban migration, driven by the search for improved employment opportunities, contributing to pressure on existing sanitation infrastructure. This rapid urbanisation is itself implicated in the persistence of open defecation, as the pace of population growth in parts of the city has outstripped the expansion of sanitation facilities.



Figure 1: Akwa Ibom State showing Study Area (Uyo Capital City)

Sampling and Data Collection

A total of 384 questionnaires were administered across the urban (120), semi-urban (144) and rural (120) zones of Uyo Capital City, representing 31.25%, 37.50% and 31.25% of the sample respectively. A total of 345 questionnaires (89.84%) were successfully retrieved: 100 from the urban zone (28.99%), 141 from the semi-urban zone (40.87%) and 104 from the rural zone (30.14%).

Table 1: Questionnaire distribution in the study area

Zone	Administered	% Administered	Retrieved	% Retrieved
Urban	120	31.25	100	28.99
Semi-urban	144	37.50	141	40.87
Rural	120	31.25	104	30.14
Total	384	100.00	345	89.84

Stratified, cluster and systematic random sampling techniques, with quotas assigned by residential zone, were used to ensure that every household had an approximately equal probability of selection. The sample frame spans the North-East, North-West, South-East, South-West and Central sectors of the city. Within each zone, specific neighbourhoods were purposively identified to ensure coverage of high-, medium- and low-density settlement types – for example,

Ewet Housing Estate and Aka Road in the urban zone, Nung Oku and Etoi/Nwaniba-Idu in the semi-urban zone, and Afaha Ibesikpo and Obio Ibiono in the rural zone. The questionnaire captured respondents' socio-demographic characteristics (age, gender, marital status, occupation, education, religion and household income) alongside their knowledge, perceptions, attitudes and practices of open defecation. A focus group discussion involving nine participants, held in March 2025 at Ikot Edido, Uyo, was used to provide qualitative context for the quantitative findings and to explore the reasoning behind residents' stated attitudes in greater depth than closed-ended items allow.

Method of Data Analysis

Data were analysed using descriptive statistics (frequencies and percentages), the Pearson chi-square test of independence, and binary logistic regression. The chi-square test (X^2 = Σ[(observed frequency − expected frequency)² / expected frequency]) was used at the 95% confidence level to assess associations between categorical socio-economic variables (culture, poverty, education, occupation, age and household income) and the practice of open defecation. This statistic was selected for its computational simplicity, its suitability for categorical data, and its capacity to detect association between variables, although it should be noted that it establishes association rather than causation and is sensitive to small, expected cell frequencies.

Binary logistic regression ($\text{logit}(p) = \beta_0 + \beta_1X_1 + \ldots + \beta_nX_n$) was used to estimate the odds and predicted probability of open defecation associated with each predictor, with independent variables retaining $p < 0.05$ included in the final multivariable models and odds ratios calculated at a 95% confidence interval. Logistic regression was selected because the outcome variable, practice or non-practice of open defecation, is binary, and the technique allows multiple predictors to be assessed simultaneously while generating readily interpretable odds ratios.

Results and Discussion

Cultural and Traditional Influence

The results in Table XXX, reveal that of the 345 respondents, 53.62% (n = 185) agreed that culture and tradition influence the practice of open defecation, while 28.12% (n = 97) disagreed and 18.26% (n = 63) were unsure. The chi-square test confirmed a significant association between cultural influence and open defecation practice ($X^2 = 12.56$, df = 2, $p < 0.01$), leading to rejection of the null hypothesis of no relationship.

Table 2: Cultural and traditional influences of opendefecation practice

Cultural influence	Practising OD	Not practising OD	Total
Yes	120	65	185
No	40	57	97
Don't know	31	32	63
Total	191	154	345

**OD = Open defecation*

A logistic regression fitted on responses by gender, $\log(p/(1-p)) = 0.636 + 0.039X$, indicated

that men were marginally more likely than women to attribute open defecation to cultural and traditional beliefs (predicted probability of about 66.3% versus 65.4%), although this gender difference was not itself statistically significant. This finding is consistent with the cultural-embeddedness of open defecation reported by Anuradha *et al.* (2017) in rural India and by Inah *et al.* (2023) in Taraba State, where ancestral custom and cultural lifestyle were similarly implicated as drivers of the practice independent of formal knowledge of its risks.

Poverty

Poverty emerged as the strongest single predictor examined in this study. The overwhelming majority of respondents (84.06%, n = 290) agreed that poverty drives open defecation, against 11.88% (n = 41) who disagreed and 4.06% (n = 14) who were unsure. The chi-square test produced $X^2 = 20.15$ (df = 2, $p < 0.001$), confirming a highly significant association.

Table 3: Poverty Influences of Open Defecation Practise

Poverty influence	Practising OD	Not practising OD	Total
Yes	160	130	290
No / Don't know	31	24	55
Total	191	154	345

This finding is consistent with evidence elsewhere in sub-Saharan Africa that open defecation is disproportionately concentrated among lower-wealth households (Belay *et al.,* 2022), that hygienic sanitation use rises with household wealth (Ohwo, 2019), and that Nigeria's wealth index specifically predicts open defecation risk, with the poorest households accounting for the majority of cases nationally (Abubakar, 2018). It also aligns with the Health Belief Model's prediction that perceived structural barriers, in this case, the cost of constructing and maintaining a toilet, can outweigh perceived benefits of behaviour change regardless of a household's awareness of associated health risks (Orivi, 2023).

Education and Awareness

Educational attainment was significantly associated with open defecation practice ($X^2 = 14.09$, df = 2, $p = 0.007$), and only 52.17% of respondents (n = 180) reported having received any education or awareness campaign on the risks of open defecation, against 47.83% (n = 165) who had not. This is consistent with findings that households with higher educational attainment are less likely to practice open defecation, partly because education increases awareness of associated health risks and correlates with higher socio-economic status and greater ability to afford improved sanitation (Ohwo, 2019). The near-even split in awareness-campaign exposure also suggests that public health messaging in Uyo has not yet achieved comprehensive reach, echoing broader Nigerian evidence that diarrhoeal disease – closely tied to unsafe excreta disposal – remains a leading cause of under-five mortality (World Bank, cited in FMWR documentation).

Occupation

Occupation was very strongly associated with the

practice of open defecation ($X^2 = 51.00$, df = 6, $p < 0.001$). Using civil servants as the reference category, logistic regression – logit(p) = −1.398 + 2.401(Farming) + 2.09(Fishing) + 1.34(Trading) + 1.54(Artisan) + 2.04(Unemployed) + 0.99(Unspecified) – produced predicted probabilities of open defecation of approximately 20% for civil servants, 73% for farmers, 67% for fishers, 66% for unemployed respondents, 54% for artisans and 49% for traders. This suggests that occupations associated with proximity to farmland or water bodies, or with lower and less stable incomes, carry substantially higher odds of open defecation than salaried, urban-based occupations.

Table 4: Occupation Influences of Open Defecation Practise

Occupation	Predicted probability of OD	Odds ratio (vs. civil servant)	p-value
Civil servant (reference)	20%	1.00	< 0.001
Farming	73%	11.04	< 0.001
Fishing	67%	8.09	0.087
Unemployed	66%	7.71	< 0.001
Artisan	54%	4.67	< 0.001
Trading	49%	3.81	< 0.001

These findings closely mirror the occupation-linked income instability discussed in the literature review: farming and fishing households often work in close proximity to farmland, forests or water bodies where open defecation is both physically convenient and less visible, while unemployment removes the income stability needed to construct or maintain a private facility. The much lower predicted probability among civil servants and traders reflects the more stable, urban-based nature of these occupations and their closer correspondence with the higher-wealth-index households found elsewhere to be least likely to practise open defecation (Abubakar, 2018).

Age and Household Income

Age was significantly associated with open defecation practice ($X^2 = 23.45$, df = 12, $p = 0.024$), with a negative logistic coefficient ($\beta_1 = -0.05$; odds ratio = 0.95), indicating that the odds of practising open defecation decline as age increases, a pattern the study attributes to greater cumulative exposure to health education and community sanitation programmes among older residents.

Table 4: Age and Household Income Influences of Open Defecation Practise

Age range	Practising OD	Not practising OD	Total
1–10	5	4	9
11–20	15	13	28
21–30	60	18	79
31–40	40	12	53
41–50	15	7	22
Above 50	8	5	13

Household income was also significantly associated with the practice ($X^2 = 15.67$, $p < 0.01$),

with higher-income households consistently less likely to defecate in the open, consistent with findings from South Africa that each unit increase in household income is associated with a measurable decline in open defecation likelihood (Kiriga and Kainyu, 2000), and with the broader pattern that affordability – shaped by household income, cash flow and access to low-cost sanitation options – remains a central barrier to eliminating the practice (O'Connell, 2014).

Gender and Religion

By contrast, neither gender ($X^2 = 0.304$, $p > 0.99$) nor religion ($X^2 = 4.24$, $p = 0.64$) showed a statistically significant association with open defecation practice in this study, suggesting that, unlike poverty, occupation and education, these two variables do not independently drive the practice in Uyo Capital City. This finding is explored further, alongside its qualitative dimensions, in a companion analysis of gender differences in this research series.

Overall, the findings indicate that open defecation in Uyo Capital City is shaped less by a simple lack of knowledge, most respondents correctly understood the definition and risks of the practice – than by the interaction of cultural belief with structural economic disadvantage: poverty, insecure or informal livelihoods, low household income and limited educational attainment. This is broadly consistent with the qualitative evidence from the focus group discussion, in which participants linked their own open defecation episodes primarily to lack of access to functioning toilets and inability to afford replacement facilities, rather than to a belief that the practice was acceptable. Viewed through the Health Belief Model, this pattern suggests that perceived barriers (cost, space, facility condition) outweigh perceived benefits for a substantial share of Uyo's population, regardless of their perceived susceptibility to associated illness. Viewed through the Theory of Planned Behaviour, it suggests that even residents who hold negative attitudes toward open defecation may lack the perceived behavioural control, in practical terms, the financial and physical capacity, to act on that attitude. And viewed through Social Cognitive Theory, it suggests that community-level modelling and reinforcement, rather than individual awareness campaigns alone, may be a more productive lever for change, particularly among the occupational groups identified as highest-risk.

Variation by Settlement Zone

Disaggregating the socio-cultural and economic findings by settlement zone adds further nuance. In the rural zone, where farming and fishing predominate as occupations, the influence of poverty and occupation on open defecation practice was most pronounced, consistent with the occupation-linked findings reported in Section 8.5. In the urban zone, by contrast, cultural attribution of open defecation was somewhat lower, while the role of facility access and household income featured more prominently in respondents' explanations – suggesting that, as households move along the rural–urban gradient, the balance of drivers shifts from primarily cultural-occupational to primarily infrastructural-economic, even though the underlying poverty association remains strong across all three zones. Semi-urban respondents, who made up the largest share of the retrieved sample (40.87%), displayed a blended pattern, reflecting the transitional character of these neighbourhoods, which combine informal housing

typical of rural areas with proximity to urban markets and institutions.

Implications for Policy and Practice

These findings carry direct implications for how sanitation policy in Uyo Capital City should be designed and sequenced. First, because poverty and occupation – rather than lack of awareness – were the dominant statistically significant predictors of open defecation, policy instruments that rely primarily on public enlightenment (such as radio jingles, billboards and school campaigns) are likely to reach a population that, in large part, already possesses the relevant knowledge but lacks the material means to act on it. Existing state instruments, including the Akwa Ibom State WASH Policy 2025 and the Roadmap to End Open Defecation by 2030, already envisage household co-financing of latrine construction (with households expected to contribute an estimated 74% of the total cost of achieving open-defecation-free status statewide); the findings of this study suggest that, without complementary subsidy or micro-credit mechanisms targeted at the highest-risk occupational groups identified here, this co-financing model risks excluding precisely the households most likely to continue practising open defecation. Second, the significant but comparatively moderate role of cultural and traditional belief indicates that culturally sensitive messaging – for instance, messaging that engages Christian religious teaching on cleanliness rather than positioning modern sanitation as a wholesale replacement for traditional practice – may be more readily accepted than messaging that ignores the cultural context entirely. Third, the finding that open defecation declines with age points to a generational opportunity: sustained investment in school-based sanitation education for children and young adults may compound over time as today's younger cohorts age into household-head roles with stronger ingrained sanitation norms.

Comparison with State and National Benchmarks

It is instructive to situate these findings against state and national benchmarks. The 2018 Nigerian National Demographic and Health Survey estimated that 23.1% of households in Akwa Ibom State practised open defecation, while the 2021 WASHNORM report placed the state figure at approximately 11%, against a national average of 23%, suggesting that, at the state level, Akwa Ibom performed comparatively well relative to the national picture, even as the same report documented a concerning regression, with the proportion of state residents practising open defecation rising from 4% to 11% between 2019 and 2021, alongside a decline in access to basic hygiene services from 11% to 17% lacking such access over the same period. Set against this backdrop, the fact that the present survey recorded open defecation practice at some point among 55.36% of Uyo Capital City respondents (as documented in the companion analysis of sanitation access) indicates that lifetime or occasional practice is considerably more widespread than routine practice, and that state-level aggregate statistics, which typically capture only the proportion of households defecating in the open as their primary practice, may understate the true scale of the behaviour when occasional and emergency-driven episodes are taken into account. This distinction matters for policy design: a population in which open defecation is occasional and driven by facility breakdown or

affordability shocks requires a different intervention mix, rapid-repair schemes, emergency sanitation options, low-cost facility upgrades, than a population in which the practice is habitual and primarily attitudinal. The socio-cultural and economic determinants identified in this study, particularly poverty and occupation-linked income instability, are consistent with an occasional-practice pattern driven by periodic inability to maintain adequate facilities rather than a wholesale rejection of latrine use as a sanitation norm.

Conclusion and Recommendations

This study has shown that public perception and attitude towards open defecation in Uyo Capital City are significantly shaped by cultural and traditional beliefs, poverty, educational attainment, occupation, age and household income, but not by gender or religion. Poverty and occupation exerted the strongest influence, with farmers, fishers and unemployed residents facing substantially higher predicted odds of practicing open defecation than civil servants and traders. These findings suggest that open defecation in Uyo is fundamentally a problem of structural economic disadvantage operating within a cultural context that formally regards the practice as taboo, rather than a simple deficit of awareness. The theoretical lenses applied in this study, the Health Belief Model, the Theory of Planned Behaviour and Social Cognitive Theory, converge on a similar conclusion: awareness alone, while necessary, is insufficient to eliminate open defecation where perceived and actual economic barriers remain high. Effective intervention in Uyo Capital City will therefore require subsidising sanitation for Uyo's poorest, especially farmers and fishers. Target campaigns on cultural and cost barriers, not just awareness. Link hygiene to micro-credit, reward open-defecation-free households, and partner with churches to reinforce moral and health messages.

References

Abubakar, I. R. (2018). Exploring the determinants of open defecation in Nigeria using demographic and health survey data. Science of the Total Environment, 637–638, 1455–1465.

Ajzen, I. (1991). The theory of planned behaviour. Organizational Behaviour and Human Decision Processes, 50(2), 179–211.

Akpabio, E. M., Ansa, I., Brown, A. S., Udom, E. S., Udofia, E. S. and Ukpong, I. E. (2015). Nigeria's water and sanitation: Spaces of risks and the challenges of data. Proceedings of the XVth World Water Congress, Edinburgh, Scotland.

Akwa Ibom State Water, Hygiene and Sanitation (WASH) Policy 2025 (Akwa Ibom State, Nigeria).

Akwa Ibom State Water Resources Sector Oversight and Regulation Law 2022 (Akwa Ibom State, Nigeria).

Anuradha, R., Dutta, R., Raja, J. D., Lawrence, D., Timsi, J. and Sivaprakasam, P. (2017). The role of community in Swachh Bharat Mission: Their knowledge, attitude and practices of sanitary latrine usage in rural areas, Tamil Nadu. Indian Journal of Community Medicine, 42(2), 107–110.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Prentice-Hall.

Belay, D. G., Asratie, M. H., Aragaw, F. M., Tsega, N. T., Endalew, M. and Gashaw, M. (2022). Open defecation practices and its determinants among households in sub-Saharan Africa: Pooled prevalence and multilevel analysis of 33 sub-Saharan Africa countries. Tropical Medicine and Health, 50(28), 1–12.

Ekpenyong, R. E., Shaibu, M. E. and Etim, E. R. (2020). Geospatial analysis and assessment of the distribution of petrol stations in Uyo Capital City, Nigeria, to safeguard human and environmental health. International Journal of Social Science, 13, 82–102.

Federal Ministry of Water Resources. (2021). Water, Sanitation and Hygiene National

Outcome Routine Mapping (WASHNORM) 2021 report. Federal Ministry of Water Resources.

Inah, S. A., Andenun, S. K., Asor, L. J., Okon, A. J., Egbonyi, D. E. and Osuchukwu, N. C. (2023). Knowledge, perceptions and attitude towards open defecation and its health implications among residents in Ussa Local Government Area, Taraba State, Nigeria. Global Sustainability Research, 2(1), 10–21.

Jenkins, M. and Curtis, V. (2005). Identifying gaps in hygiene provision for women and girls. Journal of Water and Health, 3(3), 259–266.

Kiriga, J. M. and Kainyu, I. (2000). Predictors of toilet ownership in South Africa. East African Medical Journal, 77(2), 667–672.

Lopez, V. K., Winter, S. C. and Barchi, F. (2019). Determinants of latrine use among the urban poor: A psychosocial approach. Journal of Water, Sanitation and Hygiene for Development, 9(2), 278–287.

Nnindini, S. I. (2023). Social marketing using the theory of planned behaviour among households in Ghana. Journal of Health, 5(1), 44–58.

Nyatsikor, S. (2024). An investigation of biblical approach to hygiene in Deuteronomy 23:13: A model to end open defecation in Nigeria and Ghana.

O'Connell, K. (2014). What influences open defecation and latrine ownership in rural households? Findings from a global review. World Bank Group.

Ohwo, O. (2019). Open defecation habit and its implications in sub-Saharan Africa. World Journal of Social Sciences and Humanities.

Okafo, C. N. and Nwude, M. O. (2016). Sanitation and hygiene practices of Nigeria's coastal communities and associated socio-economic characteristics: A study of two Akwa Ibom communities. British Journal of Applied Science and Technology, 14(2), 1–12.

Orivi, H. (2023). Application of the Health Belief Model in understanding water, sanitation and hygiene practices among mothers in Lagos urban slums. Nigerian Journal of Public Health, 7(3), 112–122.

Peters, E. E. (2021). Religions of Akwa Ibom people: Past and present. University of Port Harcourt.

Usoro, E. J. (2010). Relief in Akwa Ibom State: A geographical perspective. University of Uyo Press.

Sarkingobir, Y. and Sarkingobir, S. (2017). Open defecation, a threat to health and environment among girls and women in Nigeria. Journal of Health Science.

Rosenstock, I. M. (1966). Why people use health services. Milbank Memorial Fund Quarterly, 44(3), 94–127.

Verma, A. (2017). A study on WASH practices and the habit of open defecation, the factors leading to this habit and its health implications in rural Lucknow. International Journal of Development Research, 7, 7163.

WASHNORM (2021). Water, Sanitation and Hygiene National Outcome Routine Mapping report. Federal Ministry of Water Resources.

WHO (2018). Sanitation fact sheet. World Health Organisation.