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ASSESSMENT OF PERCEIVED INFLUENCE OF ENVIRONMENTAL SANITATION ON THE SOCIAL HEALTH OF SECONDARY SCHOOL STUDENTS IN NIGER STATE, NIGERIA

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Abstract

This study assessed the perceived influence of environmental sanitation on the social health of secondary school students in Niger State, Nigeria. A descriptive survey research design was adopted for the study. The population comprised 98,627 students, from which a sample of 400 respondents was selected using a multi-stage sampling technique involving stratified, random, and systematic procedures. Data were collected using a researcher-developed questionnaire structured on a four-point Likert scale and validated by experts in health education and nursing science. Descriptive statistics (mean and standard deviation) were used to answer the research question, while a one-sample t-test was employed to test the hypothesis at the 0.05 level of significance. Findings revealed that students had a high perception of the influence of environmental sanitation on their social health, with an aggregate mean score of 3.45, exceeding the criterion mean of 2.50. Students agreed that a clean school environment promotes social interaction, participation in activities, and healthy peer relationships, while poor sanitation contributes to stigma, conflict, and social withdrawal. The hypothesis test showed a statistically significant result ($t = 24.108$, $p < 0.05$), leading to the rejection of the null hypothesis. The study concluded that environmental sanitation significantly influences the social health of secondary school students. It was recommended that schools and relevant authorities prioritise sanitation infrastructure, enforce hygiene practices, and integrate sanitation education into the curriculum to enhance students' social well-being.

Keywords: *Environmental sanitation, Social health, Secondary school students, School environment, Nigeria*

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INTRODUCTION

Environmental sanitation refers to the act and practice of maintaining a clean, hygienic environment free from pollutants, waste, and disease-causing agents. It encompasses the principles and practices of effecting healthful and hygienic conditions in the environment to promote public health and welfare, improve the quality of life, and ensure a sustainable environment (Abdulbaqi et al., 2019). While the benefits of improved sanitation to public health are well documented, its specific influence on the social well-being of school-age adolescents remains an area that warrants deeper scholarly attention, particularly in developing contexts such as Niger State, Nigeria.

Social health, as defined by Yoli (2023), is the ability to form meaningful relationships with other people and interact in healthy, positive ways. Kashuta (2025) further describes social health as involving

one's capacity to form satisfying interpersonal relationships and adapt comfortably to different social situations and settings. This dimension of health is so central to overall well-being that the World Health Organisation [WHO] incorporates it into its foundational definition of health: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." The way individuals connect with peers, adapt to varied social environments, and experience a sense of belonging are all considered core indicators of social health. Notably, traits such as withdrawal, vindictiveness, or antisocial behaviour are associated with deteriorating social health (Isiaq & Abdullahi, 2025; Yoli, 2023).

For secondary school students, the school environment constitutes the primary social arena outside the home, making the sanitary condition of schools particularly consequential to students' social development and interactions. According to Akorede et al. (2023), secondary school students require a clean and healthy environment not only for physical well-being but also for healthy social engagement. Akorede et al (2023) further noted that poor environmental sanitation in schools, evidenced by the absence of functional latrines and the lack of adequate cleaning or sanitation equipment, can undermine social systems between students, fostering stigmatisation among peers and between students of neighbouring schools perceived to maintain unclean environments.

Studies by Adeolu et al. (2014) and Munir (2015) revealed that poor environmental sanitation results in persistent illness among secondary school students, and when students are frequently ill, their school attendance declines, thereby reducing opportunities for healthy socialisation and peer engagement. Grenhing (2022) similarly observed that students may resort to social alienation when they perceive their peers or community members as contributors to poor sanitation conditions, further compounding their social isolation. This cycle of illness, absenteeism, and stigma can significantly impair the social functioning of adolescent learners.

Ekong (2015) noted that unwholesome environmental practices, including open defecation, refuse disposal into gutters, and the absence of handwashing facilities, remain prevalent in many Nigerian schools. These conditions not only facilitate disease transmission but also create socially undesirable environments that discourage positive peer interaction and community cohesion. Amin et al. (2025) affirmed that environmental sanitation is pivotal to promoting the health of a community by breaking the cycle of disease and fostering clean, socially enabling surroundings. However, Abdulbaqi et al. (2019) lamented that Nigerian school environments remain characterised by overgrown weeds, litter, inadequate sanitary facilities, and poor ventilation conditions that are antithetical to positive social development among students.

The social consequences of poor sanitation are further compounded by inadequate institutional responses. Abdulbaqi et al. (2019) observed that routine inspections of students' hygiene, including fingernails, hair, and school uniforms, are no longer conducted in many schools, and the teaching of personal hygiene has been delegated to unqualified personnel, resulting in students developing poor health habits that negatively impact their social interactions. A study by Okpala et al. (2024) on students' perceptions of environmental sanitation in Nigerian university hostels corroborated these findings, revealing that inadequate sanitary conditions engender poor social health outcomes and that awareness creation, curriculum integration of environmental sanitation, and punitive measures for sanitation violators were identified by students as necessary interventions.

Given the critical role that a hygienic school environment plays in shaping the social health of adolescents, and the observable deterioration of environmental sanitation standards in Niger State secondary schools, this study seeks to systematically assess the perceived influence of environmental sanitation on the social health of secondary school students in Niger State, Nigeria.

STATEMENT OF THE PROBLEM

Environmental sanitation in secondary schools across Niger State, Nigeria, has continued to deteriorate, with significant implications for the social health of students. The researcher's field observations reveal that most secondary schools in Niger State lack adequate refuse collection facilities, resulting in nylon sachets, paper, plastics, fruit peels, and broken bottles littering school premises. The absence of adequate toilet facilities compels students to defecate in nearby bushes and urinate openly across school

grounds, creating unsanitary conditions that facilitate communicable disease outbreaks such as diarrhoea, cholera, and typhoid fever (Ekong, 2015; WHO, 2016).

The social health ramifications of these conditions are profound and multifaceted. When students fall ill due to poor sanitation, their frequency of absenteeism increases, thereby diminishing their opportunities for peer socialisation, group learning, and the development of interpersonal relationships that are fundamental to adolescent social development (Adeolu et al., 2014; Munir, 2015). Akorede et al. (2023) highlighted that students from schools perceived as environmentally unsanitary face stigmatisation from peers in other institutions, which can lead to social withdrawal and reduced confidence in interpersonal engagements. Grenhing (2022) further noted that students may experience alienation and social disengagement when they attribute the poor sanitary state of their environment to the irresponsibility of fellow students or community members.

The inability to adapt comfortably to social situations, a key dimension of social health as described by Kashuta (2025), is undermined when the school environment itself becomes a source of social embarrassment or disease-related absenteeism. Furthermore, Abdulbaqi et al. (2019) observed that the abandonment of routine hygiene inspections and the inadequacy of trained personnel responsible for environmental sanitation education in schools have resulted in students developing poor hygiene habits that negatively affect their social presentation and peer relationships.

Despite growing evidence linking poor environmental sanitation to adverse social health outcomes among secondary school students, empirical data specific to Niger State remain sparse. This gap in the literature limits the ability of policy makers, school administrators, and health educators to design effective, evidence-based interventions. It is against this backdrop that this study was undertaken to assess the perceived influence of environmental sanitation on the social health of secondary school students in Niger State, Nigeria.

PURPOSE OF THE STUDY

The purpose of this study was to assess the perceived influence of environmental sanitation on the social health of secondary school students in Niger State, Nigeria.

RESEARCH QUESTION

What is the perception of secondary school students on the influence of environmental sanitation on their social health in Niger State?

HYPOTHESIS

There is no significant perceived influence of environmental sanitation on the social health of secondary school students in Niger State.

METHODOLOGY

This study adopted a descriptive survey research design, given its non-experimental nature. The population of the study comprised 98,627 secondary school students in Niger State, Nigeria (Niger State Ministry of Education, 2025). A total sample of 400 students was used for this study. The sample size was determined using the Krejcie and Morgan (1970) table for determining sample size from a finite population, which prescribes a minimum sample of 382 for populations of 75,000 and above. To account for possible attrition, this figure was rounded up to 400. A multi-stage sampling technique was employed. First, stratified random sampling was used to represent Niger State's three existing educational zones: Bida Zone, Suleja Zone, and Kontogora Zone. Using the lucky-dip method, two Local Government Areas (LGAs) were randomly selected from each zone, yielding six LGAs in total. Subsequently, two secondary schools were randomly selected from each LGA using the same lucky-dip procedure, resulting in twelve schools overall. Respondents within each school were selected systematically from class registers, with the first name selected and every fifth name thereafter until the required number was obtained. Proportionate sampling was applied to determine the number of respondents per school, using the formula: Proportionate sample = $(n \div N) \times 400$. Where n = school population and N = total population of all selected schools. Both male and female students were included, as all students engage in environmental sanitation practices within their schools.

Data were collected using a researcher-developed questionnaire titled *"Questionnaire on the Perceived Influence of Environmental Sanitation on the Social Health of Secondary School Students in Niger State."* The instrument contained ten items on the perceived influence of environmental sanitation on the social health of secondary school students. Responses were measured using a modified four-point Likert rating scale as follows: Strongly Agreed (SA) - 4 points; Agreed (A) - 3 points; Disagreed (D) - 2 points; and Strongly Disagreed (SD) - 1 point. A mean score of 2.5 and above was accepted as indicating a positive perceived influence, while a mean score below 2.5 was rejected.

The instrument was validated by five experts, three from the Department of Human Kinetics and Health Education and two from the School of Nursing Science, Ahmadu Bello University, Zaria. Their feedback and suggestions were incorporated into the final version of the instrument. An introductory letter was obtained from the Head of the Department of Human Kinetics and Health Education, Ahmadu Bello University, Zaria, to facilitate access to the selected schools. Three trained research assistants assisted in administering and retrieving the questionnaires. Distribution was carried out during break periods to avoid disruption to scheduled lessons. Completed questionnaires were retrieved immediately after administration. Mean scores and standard deviations were used to answer the research question, while the inferential statistic of a one-sample t-test was used to test the null hypothesis. The hypothesis was tested at the 0.05 level of significance.

RESULTS

Influence of environmental sanitation on the social health of secondary school students

Research Question: What is the perception of secondary school students on the influence of environmental sanitation on their social health in the state of Niger State?

The influence of a conducive environment in engendering social activities such as play-lets, debates and games, spending time together, discussing and sharing ideas and the likely impact of the reversed situation were assessed. The opinions of the students on the items used for examining the influence are scored in means and standard deviation in Table 1. The decision of agreement or otherwise is based on a midpoint average of 2.50.

Table 1: Mean scores on the influence of environmental sanitation on social health of secondary school students in Niger state

S/N	Influence of Environmental Sanitation on Social Health	Mean	Std. Dev.
1	Conducive environment creates social well-being among students	3.55	.773
2	A clean school environment encourages social activities such as play-lets, debates and games.	3.54	.684
3	Students with clean uniforms socialise well with other students.	3.56	.746
4	A clean school environment encourages students to spend time together, discussing and sharing ideas.	3.49	.761
5	Indiscriminate disposal of waste can result in protests among students.	3.31	.879
6	Poor environmental sanitation tends to disrupt socialisation among peers.	3.42	.838
7	Poor environmental sanitation within the school environment can lead to disputes among students.	3.42	.838
8	Dirty classrooms can lead to conflicts among students.	3.40	.865
9	Poor personal hygiene of the students leads to poor social interactions.	3.42	.850
10	Poor environmental sanitation in schools leads to stigma among students	3.37	.855
	Aggregate mean	**3.45**	**0.559**

Observation of Table 1 shows an aggregate mean score of 3.45, which implies that the students could be said to have a high perception of the influence of environmental sanitation on their social health in the selected secondary schools. Apart from the encouragement of creating a healthy environment for social life, like play-lets, debates, games, spending time together, discussing and sharing ideas, the students were of the view that an unclean environment has the potential of creating conflicts and

disrupting socialisation and protest in the schools. In a nutshell, the students were of the view that environmental sanitation influences their social health in Niger State.

Test of Hypothesis

Hypothesis: There is no significant perceived influence of environmental sanitation on the social health of secondary school students in Niger State.

The mean scores of the perceived influence of environmental sanitation on the social health of secondary school students examined in Table 1 are compared here with the test mean used as the benchmark with the aid of the one-sample t-test to establish the level of its significance. The summary result of the one-sample t-test is presented in Table 2.

Table 2: One-sample t-test on perceived influence of environmental sanitation on the social health of secondary school students in Niger State

Variables	N	Mean	Std. Dev.	Std. Error	t-value	Df	P-value
Social health	400	3.45	0.559	0.039	24.108	399	.000
Test mean	400	2.50	0.000	0.000			

($t(399) = 1.96, P < 0.05$)

A careful observation of Table 2 shows that the students believed that environmental sanitation has a significant influence on the social health of secondary school students in Niger State. The observed t-value (24.108) for the test is higher than the critical value of 1.96. The observed level of significance for the test was 0.000($P < 0.05$). These observations provide sufficient evidence for rejecting the null hypothesis. The null hypothesis that stated that there is no significant perceived influence of environmental sanitation on the social health of secondary school students in Niger State was therefore rejected. This means that the perception of environmental sanitation on the social health of secondary school students in Niger state was positive.

DISCUSSION OF FINDINGS

The finding that secondary school students in Niger State hold a significantly positive perception of environmental sanitation's influence on their social health, as evidenced by an aggregate mean of 3.45 and a t-value of 24.108, aligns strongly with the conclusions of several previous studies. This result is in full conformity with Nwakile, Eze, and Okanya (2017), whose study validated that approximately 68% of students perceived poor sanitation as a direct threat to their social health, a figure that resonates with the broad agreement recorded among Niger State students in the present study. Furthermore, the finding corroborates the position of Adeolu, Enesi, and Adeolu (2014), who established that environmental awareness is a key driver of school sanitation maintenance, encompassing classroom, compound, and communal spaces, all of which are social environments. The consensus is further buttressed by Okpala et al. (2024), whose study in University of Maiduguri hostels supported the view that poor sanitation undermines the quality of social life among students, while Manyatsi and Thwala (2024) validated the role of hygiene education in shaping students' sanitation behaviours, which invariably affects their social interactions and wellbeing.

Conversely, a dimension of the present finding encounters some measure of disagreement with the submissions of Munir (2015), who reported that students in the Polytechnic Ibadan identified significant societal and financial barriers that hindered proper hygienic practices, suggesting that positive perception alone does not translate into improved social health outcomes, a position that somewhat disputes the optimistic narrative embedded in the Niger State students' responses. Additionally, while the present finding supports the notion that poor sanitation disrupts peer socialisation, Adeolu, Enesi, and Adeolu (2014) found that more than two-thirds of secondary school students still exhibited only moderate waste management practices despite environmental awareness, indirectly countering the assumption that a positive perception of sanitation's social impact is necessarily reflected in students' behaviours. Yapo et al. (2023) further contradicted any simplistic connection between perception and social health outcomes by demonstrating that even communities with relatively better access to water

still suffered significant morbidity burdens, suggesting that perception without systemic sanitation infrastructure yields limited social health gains.

From the foregoing, the researcher firmly upholds the position that secondary school students' positive perception of environmental sanitation as an influence on their social health is both significant and well-founded. Perception, as demonstrated by the weight of evidence across the reviewed studies, is a critical precursor to behavioural change and improved social wellbeing. However, the researcher equally maintains that positive perception must be complemented by deliberate institutional support, policy action, and hygiene education if it is to translate into tangible improvements in students' social health outcomes.

Conclusion

The study demonstrates that environmental sanitation is a significant determinant of the social health of secondary school students in Niger State, Nigeria. The consistently high mean ratings across all measured items and the statistically significant t-test result indicate that students clearly perceive a strong link between a clean school environment and positive social functioning. Clean and well-maintained surroundings were associated with enhanced peer interaction, increased participation in social and academic activities, and improved interpersonal relationships, while poor sanitation was linked to stigma, conflict, social withdrawal, and disrupted social cohesion.

Recommendations

In light of these findings, it is recommended that school authorities and government agencies prioritise the provision and maintenance of adequate sanitation facilities, including clean toilets, waste disposal systems, and access to safe water in all secondary schools across Niger State. Regular environmental sanitation exercises and routine hygiene inspections should be reinstated and strictly enforced to promote cleanliness and accountability among students. Additionally, environmental sanitation and personal hygiene education should be fully integrated into the school curriculum and delivered by qualified health educators to ensure proper knowledge transfer and behavioural change.

REFERENCES

Abdulbaqi, S. Z., Tejideen, T., O., & Isiaq, A. T. (2019). Perceived effects of poor sanitation on health of undergraduate students in Hall of Residents, University of Ilorin. *Osun Sociological Review, 5*(1), 112-122.

Adeolu, A. T., Enesi, D. O., & Adeolu, M. O. (2014). Assessment of secondary school students' knowledge, attitude and practice towards waste management in Ibadan, Oyo State, Nigeria. *Journal of Research in Environmental Science and Toxicology, 3*(5), 66–73.

Akorede, S. N., Sani, M., Maina, G., & Isiaq, A. T. (2023). Assessment of healthful school environment among public secondary schools in Sabon Gari Local Government Area, Kaduna State, Nigeria. *Al-hikmah Journal of Education, 10*(2), 23-27.

Amin, A., Abdulrauf, A., & Isiaq, A. T. (2024). Strategies for the implementation of environmental protection regulations towards sustainable waste management in Oyo State. *Gusau International Journal of Management and Social Sciences, 7*(2), 83-104. https://doi.org/10.57233/gijmss.v7i2.05

Ekong, I. E. (2015). An assessment of environmental sanitation in an urban community in Southern Nigeria. *African Journal of Environmental Science and Technology, 9*(7), 592–599.

Grenhing, A. I. (2022). *Assessing environmental sanitation in urban setting of Dukem Town, Ethiopia* [Master's thesis, University of South Africa].

Isiaq, A. T., & Abdullahi, M. B. (2025). Assessment of Health-Seeking Behavior on Maternal and Child Health among Nursing Mothers in Public Primary Health Care Centres in Kwara State, Nigeria. *Zamfara International Journal of Education (ZIJE), 5*(6), 1-6. https://doi.org/10.64348/zije.2025213

Kashuta, J. (2025). *Defining social health*. https://study.com/

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(1), 607–610.

Manyatsi, A. M., & Thwala, M. M. (2024). Sanitation and hygiene at rural schools in Swaziland: A case study of Ekhukhanyeni constituency. *Research Journal of Environmental and Earth Sciences, 6*(5), 278–283.

Munir, S. M. (2015). An examination of environmental sanitation and its health hazards in the Polytechnic, Ibadan. *Academic Journal of Interdisciplinary Studies, 4*(1), 1–12.

Niger State Ministry of Education. (2025). *Total list of secondary schools in Niger State*.

Nwakile, T. C., Eze, C. C., & Okanya, A. V. (2017). Sanitation practices on students health: A case study of students of vocational and technical education in the University of Nigeria, Nsukka. *International Journal of Multidisciplinary and Current Research, 5*, 1125.

Okpala, P. U., Iheanacho, P. N., Okoronkwo, I., & Stephens, R. (2024). Students' perception of environmental sanitation in female hostels: A study of a Nigerian university. *West African Journal of Nursing, 25*(1), 1–18.

World Health Organization. (2016). *Towards more sustainable sanitation solutions: Vision document*. Sustainable Sanitation Alliance.

Yapo, T. W., Mambo, V., Ossey, B., Seka, M. A., & Houenou, P. V. (2023). Effects of poor sanitation on public health: Case of Yopougon town (Abidjan). *African Journal of Environmental Science and Technology, 7*(3), 87–92.

Yoli, B. (2023). *What is social health?* https://yoli.com/what-is-social-health/