EISSN: 2707-0425

East African Journal of Science, Technology and Innovation, Vol. 6 (3): June 2025

Students' attitudes towards water and sanitation facilities in selected secondary schools in Kanungu and Wakiso Districts during post COVID-19 era in Uganda

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Abstract

Attitudes influence a person's behavior, decisions and interactions with others. In view of this, a study was undertaken to assess the attitudes of students towards utilization of the available water and sanitation facilities in selected secondary schools within Kanungu and Wakiso districts in Uganda. The study was underpinned by the theory of planned behavior change because attitude influences behavior and school environment can shape students' attitudes towards use of water and sanitation facilities. The objectives were to document the water sources used by students at home, assess students' attitudes and knowledge of water and sanitation facilities in secondary schools. This study adopted comparative research design with a mixed method approach. A structured questionnaire was administered to 153 students and key informant question guide was used to collect additional information from 10 key informants. Data were subjected to t- test and logistic regression analysis. Results revealed that students who felt comfortable using the schools' toilets had positive attitudes towards water sources and sanitation facilities. There was significant difference in the attitudes of students' Kanungu and Wakiso schools towards water and sanitation facilities, safety of tap water used for drinking and provision of soap and hand washing facilities. The main sources of water used in the homes of the students from Kanungu district are unprotected springs while piped water is used mainly by homes in Wakiso district. It is recommended that soap and hand washing facilities should be provided to shape the students' attitudes and knowledge of water and sanitation facilities as a good hygiene practice.

Key words: *Attitudes; sanitation facilities; secondary schools; water*

Cite as: Atuheire et al., 2025. Students' attitudes towards water and sanitation facilities in selected secondary schools in Kanungu and Wakiso Districts during post COVID-19 era in Uganda. *East African Journal of Science, Technology and Innovation*

Received: 10/03/25
Accepted: 19/06/25
Published: 04/07/25

Introduction

Water and sanitation are fundamental human rights (Heller, 2022). Therefore, it is crucial to ensure equitable access to water and sanitation facilities for all as stated in the United Nations Sustainable Development Goal 6. In secondary schools, access to and use of water and sanitation facilities can be bolstered by application of behavior change communication (BCC) strategies that help to create a healthy and conducive learning environment for students. BCC also helps to promote the principles of inclusion, dignity, empowerment and prosperity (Pereira *et al.*, 2024). Global effort to achieve access to water and sanitation facilities for all by 2030 goes beyond households and encompass institutions including schools. This effort has been augmented by effective application of information, education and communication (IEC) strategies that promote water and sanitation programmes in schools. In the context of water and sanitation facilities use in schools, BCC and IEC are geared towards enhancing access to information, education and improvement of learning outcomes by creating an inclusive learning environment.

According to WHO-UNICEF (2018), access to basic drinking water services varied globally in the recent past from 46% in low-income countries to 100% in high-income countries. For basic sanitation services, the coverage ranged from 47% in low-income countries to 100% in high-income countries. Access to improved water and sanitation facilities, together with increased hygienic behavior, lead to improved health, livelihoods and creation of resilient communities (WHO, 2025). Research has revealed that improved access to clean water and sanitation facilities can significantly impact people's ability to work, earn income, and improve their quality of life as there is a clear link between health, education, productivity, and economic opportunities (Okesanya *et al*., 2024).

Over the past five years, the WHO/UNICEF's Joint Monitoring Programme (JMP) for water supply and hygiene focused on households' access to water and sanitation and paid less attention to institutions such as schools that also need adequate water and sanitation facilities (Odafivwotu Ohwo, 2019). To entrench water and sanitation-culture and behavior, education planners need to promote child-friendly schools (CFS) model advocated by UNICEF. Child-friendly schools enable all children to achieve their full potential (UNICEF, 2012). The child-friendly schools model guarantees all children the right to schools that are safe and protective, that offer potable drinking water, hand-washing facilities, clean and safe toilets. In the child-friendly schools, children learn how to protect themselves and their families from infectious diseases caused by inadequate access to water and sanitation facilities (UNICEF, 2012). To be truly child-friendly, a school must have accessible, gender-appropriate toilets and hand-washing facilities, access to potable drinking water and solid waste management (UNICEF, 2012). Child-friendly schools also encourage the development of healthy behaviors for life that integrates water and sanitation behaviors, participatory teaching approaches and outreach to families and the wider community (WHO, 2019).

Improved attitudes towards water and sanitation in schools is essential for prevention of diseases and promoting good health behavior among students (McMichael, 2019). Development of positive attitudes towards water and sanitation facilities translates into cost-effective, easy-to-practice and convenient public health measure to mitigate disease spread (Bahadoran *et al*., 2020). It is evident from literature that many schools either lack or have inadequate water and sanitation facilities (McMichael, 2019). Provision of adequate water and sanitation facilities in schools is crucial as students spend much of their time there (Wada *et al*., 2022). Moreover, it reduces gender disparity, improves the school attendance of girls (Sharma and Adhikari, 2022) and guarantees better learning and health (Chakraborty and Ray, 2024). Students who have access to satisfactory water and sanitation facilities at school are more able to improve their attitudes in their daily lives, and can be effective messengers and agents for change in their families and community settings. More importantly, schools enable interactions among students and are platforms for teaching best practices that influence behavior in other settings (Noor *et al.*, 2022). Globally, most school environments tend to be polluted (Sadrizadech *et al*., 2022). The situation in developing countries including Uganda is more acute, partly because of

inadequate sanitation facilities, poor environmental management and the tendency for students to have negative attitude towards environment (Basaza *et al.*, 2010). Student's attitudes and practice in a community are crucial to the management of water and sanitation facilities. Students' participation in management of waste are indicative of their attitudes towards environment (Basaza *et al*., 2010).

In spite of the benefits of having adequate water and sanitation facilities in schools outlined above, studies have shown that many schools in developing countries lack or have inadequate water and sanitation facilities (Olatunji, 2021). Over the past few years, a number of studies have focused on water and sanitation facilities in schools (Antwi-Agyei *et al*., 2017; McMichael, 2019; Sangalang *et al.,* 2022; Sharma and Adhikari, 2022). However, few studies have explicitly examined students' attitudes towards water and sanitation in schools, for instance, Sibiya and Gumbo (2013), Vishnupriya et al (2015), Shilunga *et al*. (2018), Magwe (2024) and Chakraborty and Ray (2024). In Uganda, schools have inadequate facilities that negatively affect health and attendance, particularly among girls who struggle with menstrual hygiene management; many schools still have inadequate facilities, leading to negative health outcomes and reduced attendance (Miiro *et al*., 2018).

Attitude refers to an individual's positive or negative feelings in performing a target behavior (Abun *et al.,* 2021). Ajzen (2018) defined it as a consistent and enduring value judgment of, or affective response to, a stimulus object or situation that can be either positive or negative and is a determinant of behaviors directed toward the attitude object. Studying attitudes is important because it explains behavioral and mental processes which, in the case of this study, are vital for adopting the use of water and sanitation facilities in schools. In contributing to the narrative on water and sanitation, the study aims to deepen understanding of students' attitudes as an underlying factor in shaping behavior change in rural and metropolitan schools. It also informs behavior change communication strategies and interventions to improve use of water and sanitation facilities in schools. The theory of planned behavior (TBP) underpins the study (Ajen, 1964; Bandura, 1977). It fronts behavioral change as a driver of personal intentions and conduct. The theory postulates that personal efficacy determines a person's coping behavior.

The Coronavirus Disease (COVID-19) pandemic has had severe impacts on society including schools affecting nearly 1.6 billion learners in more than 200 countries (Pokhrel and Chhetri, 2021). The spread of the unprecedented disease forced communities and schools into social isolation, changing the ways in which people relate and increasing awareness about the use of water and sanitation facilities. Closures of schools impacted more than 94% of the world's student population. This brought far-reaching changes in all aspects of learning and educational practices (Pokhrel and Chhetri, 2021). Re-opening of schools after relaxation of restriction was another challenge with many new standard operating procedures put in place including provision of water from safe sources and sanitation facilities. The specific objectives of this study were to document water sources used by students at home and assess students' attitudes and knowledge of water and sanitation facilities in selected secondary schools in Kanungu and Wakiso districts in the post COVID-19 pandemic. The study sought answers to the following questions: which water sources are used in the students' homes? What are students' perspectives and knowledge of water and sanitation facilities in their schools?

Materials and Methods

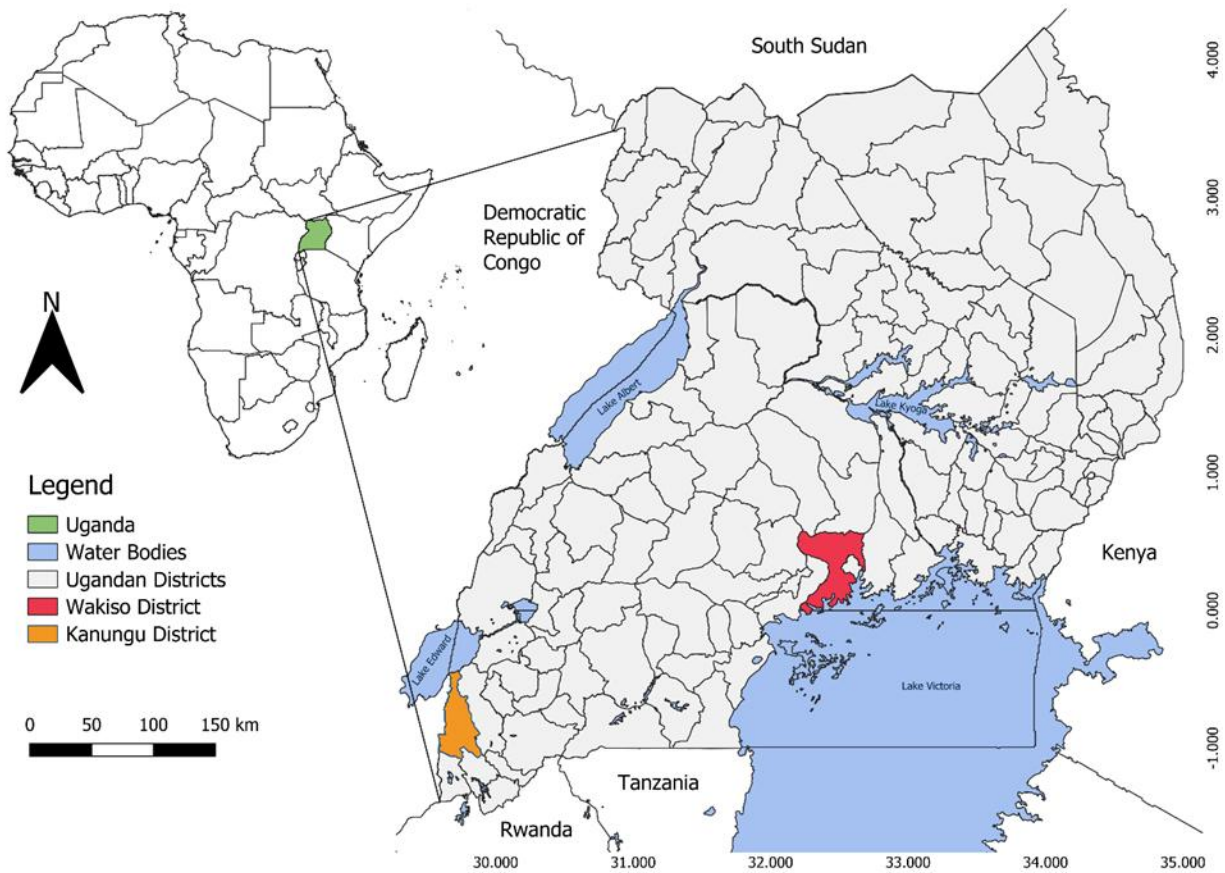
Study area

The study was undertaken in Kanungu district located in western Uganda bordered by Kihihi town to the north, Kisoro district to the south, Kabale district to the east and Democratic Republic of the Congo to the west. Wakiso district is located in central region bordered by Nakaseke

district to north, Mukono district to the east and Mityana district to the west (Figure 1). The districts were selected to compare students' knowledge of water sources and their attitudes towards water and sanitation facilities in the secondary schools.

Figure 1

Map of Uganda showing the study districts



Kanungu district has a population of 277,300 and 52 secondary schools (Jovine, 2017). Water access rates vary from 47 % to 95 %. The district has one piped water scheme and 2,042 domestic water points which serve a total of 262,634 people of whom 210,887 live in rural areas. Three hundred and fifty water points have been non-functional and abandoned for over five years (Nkambo, 2022). Sixty six percent of the population has access to protected springs and 25% to public to water. Four percent has access to shallow wells and the same percentage has access to deep boreholes (Figure 2). Wakiso district has a population of 2,007,700 and 580 secondary schools (Kato, 2016). Water access rates vary from 20 % to 95 %. There are 4,368 domestic water points which serve a total of 1,103,415 people of whom 744,232 are in rural areas. One thousand and one hundred water points have been non-functional and abandoned for over five years (Nkambo, 2022). Forty eight percent of the population has access to shallow wells, 23% to protected springs and 13% to deep boreholes (Figure 3).

Figure 2

Access to water sources in Kanungu district, Uganda

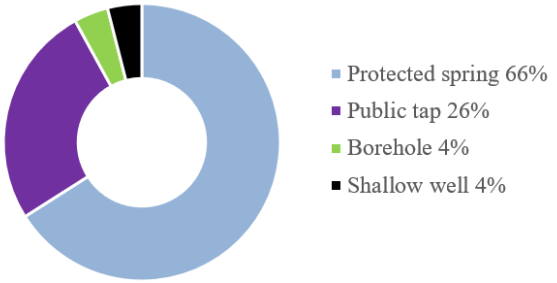
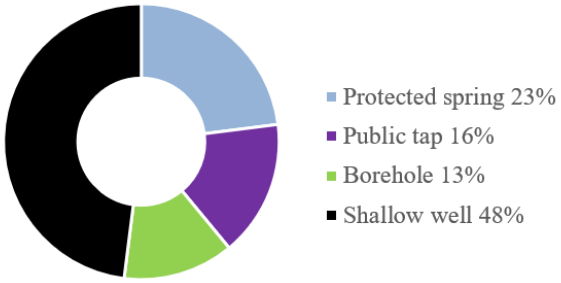


Figure 3

Access to water sources in Wakiso district, Uganda



Study design

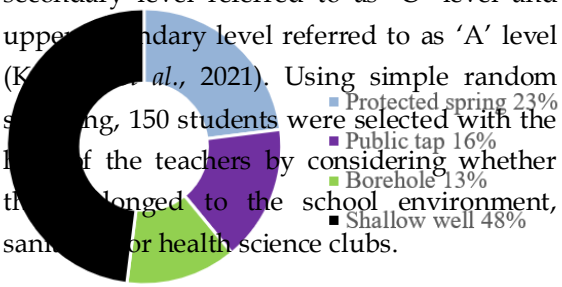
The study adopted a comparative research design with a mixed methods approach. To support data collection, five research assistants familiar with secondary schools in Kanungu and Wakiso districts were recruited and trained on data collection methods, data storage and sharing using Open Data Kit (ODK) in tablets and phones.

Sample size and sampling technique

Using Krejcie and Morgan (Chuan and Penyelidikan, 2006) table for sample size determination, a sample of 28 mixed day and boarding secondary schools in Kanungu district and 48 schools in Wakiso district were selected and a total of 150 Ordinary (O' level) and Advanced (A' level) students interviewed.

Figure 3

Access to water sources in Wakiso district



In Uganda's education system, secondary education is the second level of organized Secondary schools consisting of lower secondary level referred to as 'O' level and upper secondary level referred to as 'A' level (K *et al.*, 2021). Using simple random sampling, 150 students were selected with the help of the teachers by considering whether they belonged to the school environment, sanitation or health science clubs.

Data collection

Data were collected using a structured questionnaire administered to students between August –December 2024, on their attitudes towards utilization of available water sources and sanitation facilities in 76 schools. Students were asked to rate their views based on a five-point Likert scale namely, 1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5= Strongly agree. Additional information was collected using a question guide administered to 10 key informants from the education, health, water and environment sectors.

Reliability of the questionnaire

Cronbach alpha coefficient of reliability was computed to gauge question wording, clarity, focus, consistency and coherence. Reliability in this case refers to the extent to which the questionnaire administered to the students would give the same measured outcome when repeated in another study under similar conditions. Validity was not computed because reliability of a questionnaire is closely associated with its validity. Nunnally and Bernstein (1994) posited that the reliability of a questionnaire does not depend on its validity while Tavakoli and Dennick (2011) argued that a questionnaire cannot be valid unless it is reliable. The alpha coefficient computed was 0.824 indicating that the questionnaire was reliable and could be administered to the

students. Scholars have suggested different acceptable values of Cronbach alpha, ranging from 0.70 to 0.95 based on the argument that an alpha value that is less than 0.7 could be due to few questions in the questionnaire, poor inter-relatedness between the questions or heterogeneous constructs whereas an alpha value that is close to 0.95 suggests that some questions were redundant as they sought the same information in different ways. In this regard, Streiner (2003) recommended a maximum alpha value of 0.90.

Data analysis

Questionnaire responses were edited, coded and entered in IBM SPSS software version 29 to create a data file that was later used to generate a statistical summary. Data were subjected to student t-test (Liang and Wang, 2019) to compare the attitudes of students towards water and sanitation facilities in Kanungu and Wakiso districts. Data were also subjected to logistic regression analysis (Strzelecka et al., 2020) to show the influence of selected variables on students' knowledge of water and sanitation facilities in the secondary schools.

Ethical considerations

The consent of each student was sought before conducting the interview. All the students selected for the study granted the interviews. Students were interviewed in the classrooms, staff room and within the compound. Each interview began with self-introductions followed by an explanation of the study purpose.

Results

Types of water sources at the students' homes

Out of 153 students interviewed, 44.3% were male and 55.7% were female in each district. Types of water sources were assessed because they influence students' attitudes towards water and sanitation facilities in the schools. The results of student's responses to a set of six predetermined questions are presented in Table 1. In Kanungu district, 71.4% of the students stated that they did not have running tap water at home while in Wakiso district, 86.6% stated that they had running tap water. In terms of having deep wells at home, 58.9% of the students in Kanungu district mentioned that they had the wells whereas 89.9% in Wakiso stated that they did not have the wells. In Kanungu district, 64.3% and in Wakiso district 56.7% of the students indicated that they had hand washing point/tank at home. With regard to having hand washing facility near the toilet at home, 69.6% of the students in Kanungu district and 75.3% in Wakiso district mentioned that they had the facility. Considering that lack of water and sanitation facility can lead to contracting a disease, all (100%) the students in Kanungu district and 59.8% in Wakiso district mentioned that they have never suffered from a waterborne disease. Students also stated that prefects play a key role in enforcing the use of water and sanitation facilities in schools. As would be expected, results revealed that majority (75%) of the students in Kanungu district and 75.3% in Wakiso district were not prefects.

Table 1

Water sources and hand washing facilities in Kanungu and Wakiso districts, Uganda

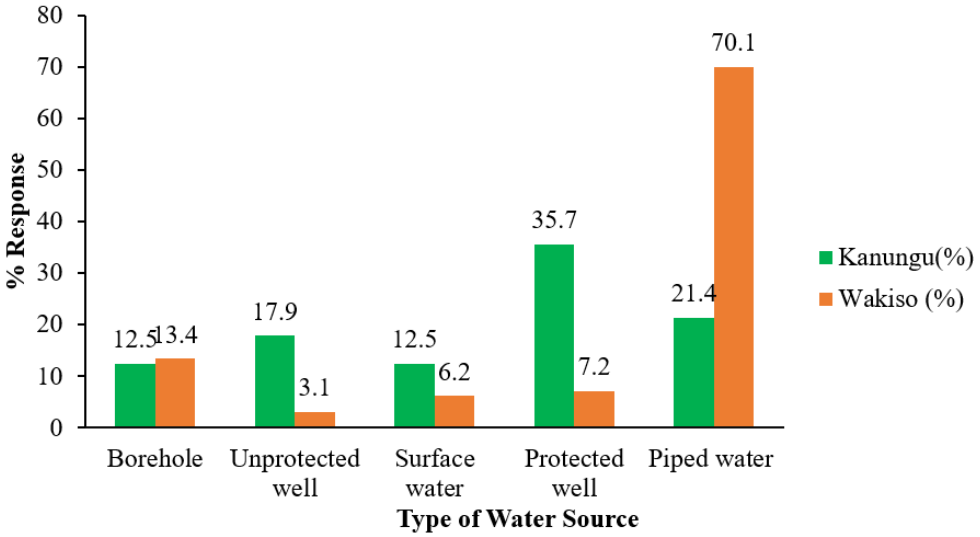
		District					
		Kanungu =56		Wakiso=97		Total =153	
Statements		**Frequency**	%	**Frequency**	%	**Frequency**	%
Do you have tap water at home?	Yes	16	28.6	84	86.6	100	65.4
	No	40	71.4	13	13.4	53	34.6
Do you have deep well at home?	Yes	33	58.9	10	10.3	43	28.1
	No	23	41.1	87	89.7	110	71.9
Do you have hand washing point/tank at home?	Yes	36	64.3	55	56.7	91	59.5
	No	20	35.7	42	43.3	62	40.5
Do you have a hand washing facility near the toilet at home?	Yes	39	69.6	73	75.3	112	73.2
	No	17	30.4	24	24.7	41	26.8
Have you ever suffered from a waterborne disease?	Yes	0	0.0	58	59.8	58	37.9
	No	56	100.0	39	40.2	95	62.1
Are you a prefect in this school?	Yes	14	25.0	24	24.7	38	24.8
	No	42	75.0	73	75.3	115	75.2

Sources of water used by students at home

Results revealed that the main sources of water used in the homes from which the students come in Kanungu and Wakiso districts were boreholes, unprotected springs, surface water, protected wells and piped water (Figure 4). Piped water was mentioned by the majority (70.1%) of students in Wakiso district as the main source of water used by schools. This response is not surprising because Wakiso district is part of the greater Kampala city and the schools are connected to piped water network of the National Water and Sewerage Corporation (NWSC). On the other hand, 35.7% of the students in Kanungu district compared to 7.2% in Wakiso district stated that the homes used water from protected wells. This response was also expected given that Kanungu is a rural district and few rural homes are connected to piped water network. More students in Wakiso district than in Kanungu district mentioned unprotected well, surface water and protected well as the main sources of water used by the homes they come. In the rural areas, these are the main sources of water also used by households. Almost the same proportion of students (12.5% in Kanungu district and 13.4% in Wakiso district) stated that boreholes were the main source of water for the homes. Government, water projects and civil society organizations often support construction of boreholes in rural and urban areas to supply safe drinking water and schools have benefited from such support.

Figure 4

Sources of water mentioned by the students in secondary schools in Kanungu and Wakiso districts, Uganda



The results of the statistical analysis presented in Table 2 reveal that piped water was the main source of water used in homes in Wakiso district (mentioned by 70.1% of the students, followed by boreholes mentioned by 13.4%, protected well mentioned by 7.2%, surface water mentioned by 6.2% and unprotected well mentioned by at 3.1% of the students.

Student's attitudes towards water and sanitation facilities in the schools

The results of the t-test presented in Table 3 indicate statistically significant differences in the attitude of students in Kanungu and Wakiso towards water and sanitation facilities (t=2.341, p=0.021), safety of tap water used for drinking (t=5.330, p = 0.000) and provision soap and hand washing facilities (t=-5.726, p= 0.000).

Table 2

Comparison of students' attitudes towards water sources and sanitation facilities in Kanungu and Wakiso districts, Uganda

Statements	District	N	Mean	Std. Deviation	t-statistic	p-value
The availability of clean water in our school is sufficient for our needs.	Kanungu	56	3.64	1.17	-1.854	0.066
	Wakiso	97	3.95	0.86		
The sanitation facilities in our school are well-maintained and clean.	Kanungu	56	3.96	1.08	1.465	0.145
	Wakiso	97	3.71	1.00		
I feel comfortable using the toilet facilities in our school.	Kanungu	56	3.68	1.15	1.739	0.084
	Wakiso	94	3.33	1.21		
I am satisfied with the overall water and sanitation situation in our school.	Kanungu	56	4.36	0.64	2.341	0.021
	Wakiso	97	4.02	0.96		
The water from taps in our school is safe for drinking.	Kanungu	56	3.43	0.83	5.330	0.000
	Wakiso	97	2.47	1.18		
The school provides enough soap and handwashing facilities.	Kanungu	56	1.95	1.17	-5.726	0.000
	Wakiso	96	3.09	1.21		
The school encourages students to report any water or sanitation-related issues.	Kanungu	55	3.69	1.03	-1.278	0.203
	Wakiso	97	3.90	0.91		
The school encourages students to use water responsibly.	Kanungu	56	3.98	1.05	-1.200	0.232
	Wakiso	96	4.16	0.73		
The school provides adequate facilities for proper waste disposal.	Kanungu	56	3.68	1.19	-0.865	0.389
	Wakiso	97	3.84	1.01		
The school organizes regular maintenance checks for water and sanitation facilities.	Kanungu	56	3.82	1.05	0.426	0.671
	Wakiso	97	3.75	0.91		
Students are encouraged to participate in water and sanitation improvement projects.	Kanungu	56	3.57	1.25	-0.080	0.936
	Wakiso	97	3.59	1.18		

Student's knowledge of water and sanitation facilities in the schools

The results of the regression analysis presented in Table 3 shows the influence of different parameters on student's knowledge of water and sanitation facilities in the two districts. In terms of gender, the results indicate that being female did not influence students' knowledge of water and sanitation facilities (t= -0.33; p= 0.740). Results further revealed that the following variables significantly influenced students' knowledge of water and sanitation facilities in the schools: age (t=-2.41; p=0.017), presence of tap water at home (t=2.39, p=0.018) and being a prefect in school (t=-2.51, p= 0.013).

Table 3

Regression analysis of student's knowledge of water sources and sanitation facilities in Kanungu and Wakiso districts, Uganda

Variables	Coef.	Std. Err.	t	P>t
Gender (Ref=Male)				
Female	-0.37	1.12	-0.33	0.740
Age	-1.30	0.54	-2.41	0.017*
Level (Ref=O level)				
A-level	1.63	1.50	1.09	0.279
Home has tap water	4.41	1.84	2.39	0.018*
Home has deep well	0.05	1.44	0.04	0.972
Home has hand washing facility	1.77	1.32	1.34	0.182
Have a hand washing facility near the toilet	0.72	1.66	0.43	0.667
Being a prefect in school	-3.20	1.28	-2.51	**0.013***
Ever suffered from a waterborne disease	-0.01	1.31	-0.01	0.994
Main source of domestic water (Ref=Bore hole)				
Unprotected well	-1.66	2.47	-0.67	0.502
Surface water	-2.84	2.48	-1.15	0.254
Protected well	-1.82	2.04	-0.89	0.375
Piped water	-3.13	2.09	-1.5	0.136
Constant	60.63	9.57	6.34	0.000*

*P-values with * represent a significant relationship at 0.05 level of significance. Statistical comparisons were performed using Chi-square*

Discussion

This study has revealed that homes from which students come in Kanungu and Wakiso districts use water from bore holes, surface water, protected and unprotected springs as well as piped water. The results of this study have also revealed disparities in sources of water used by homes in the two districts. Students, including those with disabilities, should have access to secure water sources and water points at all times at home and in schools and recommended a ratio of one water point for 20 students (Adams *et al.*, 2019). Furthermore, results indicate that the homes' main sources were boreholes, protected wells, unprotected wells, surface water and piped water. This implies that students with disability require special attention when planning for water and sanitation facilities in homes and schools. A study conducted in Brazil took into account the special needs of students with limited mobility when providing water and sanitation facilities but they did not report on provision for such students at home (Pereira *et al.*, 2024). This study also examined students' attitudes towards water and sanitation facilities in the schools.

Scholars have pointed out that some situations are more likely than others to promote attitude-congruent behaviors (Frauhammer and Neubaum, 2023) which are aligned to the theory of planned behavior underlying this study (Ejigu and Yeshitela, 2024). Attitude-congruent behaviors are desirable for

promoting use of water and sanitation facilities in schools. Furthermore, differences across people and situations influence attitudes; thus, attitudes motivate and guide behavior (Ajzen and Fishbein, 1977). Predicting behavior-congruent actions, such as use of water and sanitation facilities in schools, requires a measure of attitude toward the behavior itself (Ajzen *et al*., 2018). Although not explicitly examined in this study, scholars have reported that social norms and traditional practices hinder efforts to promote use of water and sanitation facilities (Magwe, 2024). In this regard, there is need for implementation of culturally-informed behavior change communication strategies to promote use of water and sanitation facilities in schools.

A negative t-value in the regression analysis indicates a negative direction of the relationship between water and sanitation facilities (independent variables) and students' attitudes towards them in the schools (dependent variables). This implies that as the independent variable increased, the dependent variable decreased (Dunn *et al*., 2018; James *et al*., 2022). Furthermore, the study, revealed that age influenced students' attitudes towards water sources and sanitation facilities. This trend aligns with the findings of a study which revealed that students' views on the adequacy and condition of water sources and sanitation facilities tend to shift as they become older and advance through their education (Jasper *et al*., 2012). Attitudes and behavior of students can limit promotion of water and sanitation facilities use in schools particularly where water supply and sanitation facilities are inadequate or nonexistent (Iribarnegaray *et al*., 2015; Hashemi, 2020).

Access to running water is a fundamental human right (Kanjin *et al*., 2023) reported that. In spite of its importance, lack of or limited access to safe drinking water and basic sanitation facilities remains a global challenge, particularly in developing countries including Uganda. A study by Aydamo *et al.* (2023) reported that access to tap water is associated with favorable attitudes towards use of water sources and sanitation facilities further signifying the need for schools to have reliable water sources. This study also revealed that availability hand washing facility at home does not influence a student's attitudes towards water and sanitation facilities suggesting that factors beyond the immediate home environment, such as societal norms and the overall quality of school facilities might play a more significant role. This observation corroborates the findings by Cronk *et al.* (2020) who stated that while it is convenient to provide hand washing facilities at home, it is also important to note that such a provision may not be the primary determinant of students' attitudes towards water and sanitation facilities in schools. Olatunji and Thanny (2020) noted that the relationship between these variables is not straightforward although Rehman *et al.* (2021) reported that provision of hand washing facility near toilets influenced students' attitudes towards use of water and sanitation facilities. Against this backdrop, it is logical to state that behavior change communication strategies should tailor messages aimed at promoting increased use of hand washing facilities as part of the effort to ensure sanitation in schools. Ensuring access to safe and reliable water sources is a crucial aspect of community development and it is associated with attitudes. Boreholes and protected springs are often considered as primary sources of domestic water. As a result, the association between water source and

students' attitudes is an important area of exploration. Evidence from literature presents a mixed picture with some studies, for example Othoo *et al.* (2020) revealing that the presence of protected wells does not influence attitudes towards use of water and sanitation facilities.

Conclusions and recommendations

The main sources of water used in the homes from which the students come in Kanungu and Wakiso districts were boreholes, unprotected springs, surface water, protected wells and piped water. Piped water is used mainly by homes in Wakiso district because they are connected to the NWSC supply network. Results of the t-test and regression analyses affirmed that having tap water at home, being comfortable with using school toilets, availability of soap and hand washing facilities in school, regular maintenance of the schools' water and sanitation facilities and participation in school-based activities that are related to use of water and sanitation facilities influenced students' attitudes towards use of water and sanitation facilities. In view of this, school administrators need to ensure that students have access to safe drinking water and sanitation facilities such as toilets should be kept clean. In addition, soap and hand washing facilities should be provided as these shape the students' attitudes towards use of water and sanitation facilities which promote good hygiene practices with a ripple effect on their health and learning outcomes.

Acknowledgement

Fieldwork for this study was made possible with support from Makerere University Research and Innovations (MAKRIF) grant.

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