

Online Sexual Harassment and Psychological Distress Among College Students in TVET Institutions in Nairobi: A Cross-Sectional Study

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ABSTRACT

Background: Online sexual harassment (OSH) has emerged as a pervasive global concern, with increasing evidence linking it to adverse mental health outcomes such as depression, anxiety, and stress. Despite growing attention worldwide, research on OSH and its psychological impact remains limited within Kenya's Technical and Vocational Education and Training (TVET) institutions, where students face unique socio-economic and academic stressors. **Objective:** This study aimed to determine the prevalence of online sexual harassment and examine its association with psychological distress among TVET students in the Nairobi Region. **Methods:** A cross-sectional design was employed involving 350 students selected through stratified random sampling across public and private TVET institutions. Data collection utilized a structured Online Sexual Harassment Questionnaire alongside the standardized Depression Anxiety and Stress Scales–21 Items (DASS-21). Statistical analyses included descriptive statistics, chi-square tests, independent samples t-tests, one-way ANOVA, and regression modeling to explore prevalence, demographic differences, and the relationship between OSH and psychological distress. **Results:** The findings revealed a high prevalence of online sexual harassment, with approximately 60% of participants reporting exposure to at least one form of harassment. Psychological distress was also notably elevated, with over two-thirds of students exhibiting symptoms of depression and anxiety ranging from mild to extremely severe. Statistical analyses confirmed a significant association between experiences of online sexual harassment and increased levels of psychological distress across all subscales ($p < .05$). Gender differences were minimal, suggesting widespread vulnerability irrespective of sex. **Conclusion:** Online sexual harassment is a common experience among TVET students in Nairobi and is significantly linked to heightened psychological distress. These findings highlight an urgent need for institutional policies and comprehensive mental health interventions tailored to the TVET context, including preventive measures against harassment and enhanced access to psychological support services.

Keywords: Online sexual harassment, psychological distress, depression, anxiety, stress, TVET students, Kenya

INTRODUCTION

The rapid digitalization of education has transformed how students learn, communicate, and interact, with online platforms becoming integral to academic and social life. The widespread adoption of internet-enabled devices and social media has created new opportunities for collaboration, information exchange, and peer engagement. However, this increased online presence has also exposed students to emerging risks, including various forms of cyber victimization. Among these, online sexual harassment (OSH) has gained recognition as a serious public health and educational concern. OSH refers to unwanted sexual conduct occurring via digital platforms, such as unsolicited sexual messages, non-consensual sharing of intimate images, coercion, and sexualized bullying (Project de Shame, 2017; Angela et al., 2023). These risks are particularly relevant in Technical and Vocational Education and Training (TVET) institutions, where young adults navigate both academic demands and evolving digital cultures.

Sexual violence remains a pervasive concern within higher education, with alarmingly high prevalence rates reported worldwide. On college campuses, estimates suggest that between 90% and 97% of students experience some form of sexual violence during their academic life, yet approximately 90% of such incidents go unreported (Campbell et al., 2021; PCAR, 2018). While manifestations range from verbal harassment to forced sexual acts (Centers for Disease Control and Prevention [CDC], 2019), sexual harassment—encompassing unwelcome sexual comments, advances, or physical contact—has been identified as the most common form among college students (Fedina et al., 2019). International studies underscore the scale of the problem: in Norway, 24% of students reported harassment in the past year (Sivertsen et al., 2020); in Vietnam, 48% of female journalism students experienced harassment (Chu et al., 2021); and in Tanzania, more than 10% of female students reported harassment at school (Landin et al., 2020). Increasingly, these behaviors are extending into digital environments, where social media and mobile technologies facilitate new forms of OSH.

The expansion of digital connectivity has not only created opportunities for learning and social interaction but has also heightened students' vulnerability to OSH (Van Ouytsel et al., 2020). Global surveys reveal that 20% of young adults have received unsolicited sexual advances online, 17% have been sent obscene images, and 7% have had humiliating content shared without consent (Uhlich et al., 2024). Similar trends have been documented across Europe, Asia, and Africa, with prevalence among female students often exceeding 60% (Krishna et al., 2022; Arafa et al., 2021). The psychological consequences are profound, with victims exhibiting higher levels of depression, anxiety, trauma, and body image dissatisfaction (Iroegbu et al., 2024; Nwachukwu et al., 2023). Broader studies on student mental health show that college populations experience significantly higher levels of psychological distress than the general public, with nearly half reporting acute mental health symptoms (Gilavand et al., 2023; Auerbach et al., 2018; UNESCO, 2024). These findings highlight OSH as both a pressing public health concern and a significant risk factor for mental health problems in student populations. Yet, despite the growing body of international evidence, there remains limited research on how OSH manifests in TVET institutions, particularly in the Kenyan context, where digital adoption is rapidly expanding but institutional responses remain underdeveloped.

Online sexual harassment encompasses a wide range of behaviours using digital platforms, including non-consensual sharing of sexual content, sexualized bullying, coercive advances, and sexually explicit communication (Angela et al., 2023). Across global studies, prevalence rates vary considerably depending on context, methodology, and population, but evidence consistently points to its widespread nature among young people, including university students. In South Asia, Sharma et al. (2022) found that over 73% of young female students in Nepal had experienced online sexual harassment multiple times, with common forms including coercion, sexualized bullying, and non-consensual sharing of intimate content. Similar patterns emerged in Egypt, where Arafa et al. (2017) reported nearly 80% of female university students had experienced cyber sexual harassment within the past six months, most on multiple occasions. European studies also reveal high prevalence: Franceschi et al. (2024) observed that 41.3% of Italian adolescents had been harassed online at least once, while Nielsen et al. (2024) reported 14.8% of Danish female students had received sexually offensive online messages in the past year compared to 4.9% of males.

African research also highlights the issue. In Nigeria, Mustapha et al. (2021) documented widespread online harassment among undergraduates, with forms such as “dog-piling” and trolling being common. In Morocco, Benhima and Benabderrazik (2021) found that nearly a quarter of surveyed female students had been asked to send nude images. Similarly, studies in Afghanistan (Daqiq & Akramy, 2023) and Indonesia (Darmayanti & Idrus, 2024) show that harassment often includes unsolicited sexual messaging, coercion to send explicit images, and exposure to sexualized content without consent. Although prevalence rates differ, from as low as 10% in some European samples to over 70% in South Asian and North African contexts, the evidence is unequivocal that online sexual harassment is a global problem affecting students across cultural and national boundaries. Such variation may reflect differences in definitions, reporting practices, and sociocultural norms, underscoring the need for locally contextualized studies. This research therefore examines the prevalence of online sexual harassment among Kenyan college students, contributing to the growing international literature and offering region-specific insights.

Evidence from multiple contexts indicates that online sexual harassment can lead to significant emotional and cognitive distress among college students. For example, a study in Rajasthan, India, found that nearly half (47%)

of female college students surveyed had experienced sexual victimization in cyberspace, with common emotional responses including persistent crying, mood swings, flashbacks of the incident, heightened anger, and reduced self-confidence (Choudhary, Laksheetta, & Deva, 2023). Other frequently reported effects included anxiety, confusion, feelings of insecurity, lifestyle changes, self-blame, and low self-esteem, while more severe outcomes such as self-harm tendencies and suicidal ideation, though less common, were also observed. These findings underscore the broad spectrum of psychological consequences that may follow online sexual harassment, ranging from acute emotional reactions to longer-term disruptions in mental well-being.

Studies in other settings further highlight the association between online sexual harassment and adverse mental health outcomes. Research involving adult female participants in a cross-sectional study revealed that victims of cyber sexual harassment exhibited higher levels of depression, anxiety, trauma, and body image dissatisfaction (Iroegbu, O'Brien, Muñoz, & Parsons, 2024). Similarly, a Taiwanese study of 2,595 adolescents found that online sexual harassment, alongside other forms of online victimization such as cyberbullying, was linked to elevated symptoms of depression, anxiety, and stress (Huang et al., 2023). In Chile, secondary analysis of national survey data from over 18,000 adolescents showed that online sexual harassment was associated with heightened depressive symptoms in both male and female victims, regardless of the offender's identity (Pinto, Guerra, Toro, & Efthymiadou, 2021). Collectively, this body of evidence indicates that the psychological impact of online sexual harassment extends beyond transient distress, often manifesting as clinically significant mental health challenges that can impair academic, social, and personal functioning.

Although the relationship between online sexual harassment and psychological distress has been documented in various contexts worldwide, there is a notable scarcity of empirical research focusing on this issue in Kenya. Existing local studies have primarily addressed general cyberbullying or offline forms of harassment, with minimal attention given to sexualized online abuse. Moreover, the TVET sector, a rapidly expanding segment of Kenya's post-secondary education system, remains largely absent from scholarly discourse on this topic, despite its diverse student population and increasing reliance on digital platforms for learning and communication. This lack of context-specific evidence limits the ability of policymakers, educators, and mental health practitioners to design targeted interventions for this group.

The present study therefore seeks to address this gap by examining the prevalence of online sexual harassment and its association with psychological distress among students in TVET institutions in Nairobi Region, Kenya. Specifically, the study aims to: (1) determine the extent to which college students experience online sexual harassment; and (2) assess the levels of psychological distress reported by these students, with a view to analyzing the relationship between the two variables.

METHOD

This study adopted a cross-sectional design and was conducted in Technical and Vocational Education and Training (TVET) institutions within the Nairobi Region, Kenya. The study population comprised two categories: (i) students enrolled in TVET institutions, and (ii) key informants including deans of students and college counsellors. To ensure that participants were legally able to provide informed consent, only students aged 18 years and above were eligible to participate. Given that the student population across the institutions exceeded 40,000, the minimum required sample size was calculated using Godden's (2004) formula for large (infinite) populations:

$$n = \frac{Z^2 \times P(1 - P)}{E^2}$$

Where:

- n = sample size for infinite population
- Z = confidence level at 95% (standard value 1.96)
- P = population proportion, assumed at 0.5 (50%)
- E = margin of error at 5% (0.05)

Substituting the values:

$$n = \frac{1.96^2 \times 0.5(1 - 0.5)}{0.05^2} = 385$$

Substituting the values yielded a minimum sample size of 385 students. To achieve this, a multistage sampling approach was employed. First, eight TVET institutions (both public and private) were randomly selected from the Nairobi Region. Within each institution, proportionate stratified random sampling was applied to determine the number of student respondents per institution, ensuring that representation reflected the size of the student population. Subsequently, students were recruited through the offices of the deans of students, with permission obtained from institutional principals.

In addition to the student respondents, 16 key informants (deans of students and college counsellors) were purposively selected based on their roles in student welfare and psychosocial support. This resulted in a total sample of 401 participants (385 students and 16 key informants). Table 1 presents the sampling matrix for the selected institutions.

Table 1. Sampling Matrix for TVET Institutions

Institution	Target Population	Sample Size	% of Sample
A (Public)	8,636	83	22
B (Public)	10,000	96	25
C (Public)	9,812	94	24
D (Private)	1,200	12	3
E (Private)	2,000	19	5
F (Private)	3,000	29	8
G (Private)	4,754	46	12
H (Public)	598	6	1
Total	40,000	385	100

Data Collection Instruments

Data were collected using structured questionnaires and interview guides. Questionnaires were administered to students to allow efficient data collection from a large sample (Orodho, 2003). The questionnaire had two sections: Section A captured demographic characteristics, while Section B included items on the prevalence of online sexual harassment, psychological distress, help-seeking behaviours, and prevention strategies. Both closed- and open-ended questions were included.

The prevalence of online sexual harassment was measured using the Online Sexual Harassment (OSH) Scale developed by Buchanan (2022). This 12-item scale uses a 5-point Likert response format (0 = never to 4 = almost always), with possible scores ranging from 0 to 48, where higher scores indicate greater prevalence of harassment. Psychological distress was measured using the Depression, Anxiety, and Stress Scale – 21 Items (DASS-21) by Lovibond and Lovibond (1995). The scale consists of three subscales (depression, anxiety, stress) with seven items each, rated on a 4-point Likert scale (0–3). Total scores (0–63) were categorized as normal (0–9), mild (10–13), moderate (14–20), severe (21–27), and extremely severe (>27). For key informants, semi-structured interview guides with open-ended questions explored help-seeking behaviours and institutional prevention measures.

Pilot Testing

A pilot study was conducted in one TVET institution not included in the main survey but with similar characteristics. Using Godden's formula, 29 participants (15 males, 14 females) were selected. The pilot assessed the clarity, cultural relevance, and reliability of the instruments, leading to minor revisions before full data collection. Instrument validity was further enhanced through expert review by supervisors from the Department of Counseling Psychology and Research at the Catholic University of Eastern Africa. Content, construct, and face validity were considered, and feedback was incorporated before the main study.

Data Collection Procedures, Data analysis and Ethical Considerations

Before commencing data collection, the researcher sought and obtained the necessary clearances. An introductory letter was issued by the university, followed by a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Additional authorizations were secured from the Nairobi County Commissioner and the County Director of Education, ensuring that the study complied with national regulations. At the institutional level, permission was obtained from the principals of the selected TVET colleges, after which the offices of the deans of students facilitated access to participants.

Data were collected over a period of four weeks using structured, self-administered questionnaires. Research assistants, who had been trained in research ethics and data handling procedures, supported the process. To maintain consistency, all questionnaires were delivered in English, the language of instruction in the institutions, and participants completed them in designated venues within their colleges to minimize disruptions. Completed questionnaires were checked daily by the research team to ensure completeness and accuracy before storage.

Ethical principles of voluntary participation, informed consent, confidentiality, and justice were upheld throughout the study. Each participant was informed of the purpose, procedures, potential risks, and benefits of the research. Written informed consent was obtained prior to participation. Students were assured that their participation was voluntary, that refusal to participate would not attract any penalty, and that they could withdraw at any time without giving reasons. To preserve confidentiality, no identifying information such as names or admission numbers was collected. In cases where follow-up contact information was necessary, it was coded and stored separately from the survey data.

Special attention was given to safeguarding participants' psychological well-being, given the sensitive nature of the study topics. A professional counselling psychologist was available during the data collection exercise to provide immediate support or referral if participants experienced distress. In addition, participants were given information about accessible counselling services within their institutions. Data ownership was shared between the researcher and the affiliated university. Participants retained the right to withdraw their information prior to publication of results. All data were securely stored in locked cabinets and password-protected electronic files. Upon completion of the analysis, the raw data were permanently destroyed to maintain confidentiality.

Quantitative data were coded and entered into SPSS Version 22 for analysis. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize demographic characteristics and study variables. Inferential statistics were applied to examine relationships between variables, with Pearson's product-moment correlation coefficient employed to test associations between online sexual harassment and psychological distress scores. Results were presented in tables and figures, in line with the journal's reporting guidelines, to enhance clarity and interpretability.

RESULTS

Response Rate

A satisfactory response rate is essential for enhancing the validity and reliability of study findings. This study employed a convergent parallel mixed-methods design, incorporating both quantitative and qualitative approaches; therefore, careful tracking of response rates in both data strands was necessary to evaluate the robustness and trustworthiness of the data collected. Table 2 summarizes the response rates achieved for both the questionnaire and interview components.

Table 2 Response Rates for Quantitative and Qualitative Data Collection

Data Collection Method	Target Sample Size	Actual Responses	Usable Responses	Response Rate (%)
Questionnaires (Students)	385	359	350	90.9
Interviews (Deans)	8	5	5	62.5
Interviews (Counsellors)	8	8	8	100.0
Total Interviews	16	13	13	81.3

Respondents' Demographic Characteristics

The study surveyed 350 TVET students in Nairobi Region, capturing a range of demographic characteristics relevant to interpreting patterns of online sexual harassment and psychological distress. Table 3 summarizes the respondents' profiles.

Table 3 Demographic Characteristics of Respondents (n = 350)

Characteristic	Category	Frequency (n)	Percentage (%)
Institution Type	Public TVET	196	56.0
	Private TVET	149	43.0
	Prefer not to disclose	5	1.0
Age Group	18–21 years	153	40.4
	22–25 years	170	48.6
	26 years and above	27	7.0
Gender	Female	225	64.0
	Male	122	35.0
	Prefer not to disclose	3	1.0
Year of Study	First year	68	19.0
	Second year	144	41.0
	Third year	134	38.0
	Not specified	4	1.0
Religion	Christian	332	95.0
	Muslim	10	3.0
	Other	1	0.0
	Prefer not to disclose	7	2.0

Overall, slightly more than half of the respondents (56%) were enrolled in public TVET institutions, aligning with national enrollment patterns in which government-funded colleges accommodate larger and more diverse student populations. The sample was predominantly youthful, with almost half (48.6%) aged between 22 and 25 years, followed closely by those aged 18–21 (40.4%), reflecting the age structure typical of post-secondary training in Kenya.

Women constituted a majority of the sample (64%), which may partly be attributed to increased female participation in vocational education and a greater readiness to engage in studies on sensitive topics such as harassment and psychological distress. Participants were fairly evenly distributed across academic years, ensuring that findings reflect perspectives from both newcomers and those nearing graduation. Religious affiliation was overwhelmingly Christian (95%), consistent with Nairobi's broader demographic composition, with Muslims representing 3% and other religions negligible in number. This demographic spread provides an important socio-cultural backdrop for understanding the dynamics of online sexual harassment and the coping responses observed among TVET students.

Participant Profile from Interviews

Thirteen key informants, 5 Deans of Students and 8 School Counselors, were interviewed from selected public and private TVET institutions in Nairobi Region. These participants were purposively selected because of their direct involvement in student welfare, psychosocial support, and disciplinary processes, making them well-placed to provide institutional insights on online sexual harassment. Table 4 summarizes their characteristics.

Table 4 Profile of Deans and Counselors Interviewed (n = 13)

Characteristic	Category	Frequency (n)
Role	Dean of Students	5
	School Counselor	8
Gender	Male	6
	Female	7

Institution Type	Public TVET	9
	Private TVET	4
Years of Experience	1–2 years	3
	3–5 years	6
	More than 5 years	4

The group had a near-equal gender distribution (7 females and 6 males), ensuring that institutional perspectives were not skewed toward one gender’s interpretation of student issues. Public TVET institutions were more heavily represented (9 out of 13 informants), mirroring the student sample’s distribution and allowing for a richer understanding of challenges in larger, more diverse institutional settings. In terms of experience, the majority of participants (10 out of 13) had served in their roles for at least three years, suggesting a depth of familiarity with student behavioral trends, crisis cases, and policy implementation. This range , from relatively new appointees with fresh perspectives to seasoned professionals with over a decade in service , provided a balanced and nuanced institutional viewpoint.

The combination of administrative and counseling roles allowed the interviews to capture both policy-level strategies and frontline experiences in dealing with harassment cases. This diversity of roles and experiences proved valuable in identifying gaps, strengths, and opportunities for improving institutional responses to online sexual harassment in TVET institutions.

Prevalence of Online Sexual Harassment

The prevalence of online sexual harassment among students was assessed using the Gender Harassment (GH) and Unwanted Sexual Attention (USA) subscales of the Online Sexual Harassment Scale, alongside an overall sexual harassment (SH) score derived from both subscales. Each was categorized into four severity levels: No Experience, Mild, Moderate, and Severe.

Gender Harassment (GH)

The GH subscale captured indirect, non-physical forms of harassment rooted in sexist and discriminatory attitudes, such as dismissive comments, exclusion from online discussions, and stereotypical remarks. As shown in Figure 1, 105 students (30.0%) reported no experience, 115 (32.9%) reported mild experiences, 95 (27.1%) reported moderate experiences, and 35 (10.0%) reported severe experiences. Overall, 70.0% of students reported some level of gender harassment, with mild and moderate forms being the most common. While these behaviors may appear subtle, prior research suggests their cumulative impact can be significant, especially when institutional responses are inadequate. The 10.0% in the severe category are of particular concern, as these cases often involve repeated and aggressive gender-based attacks.

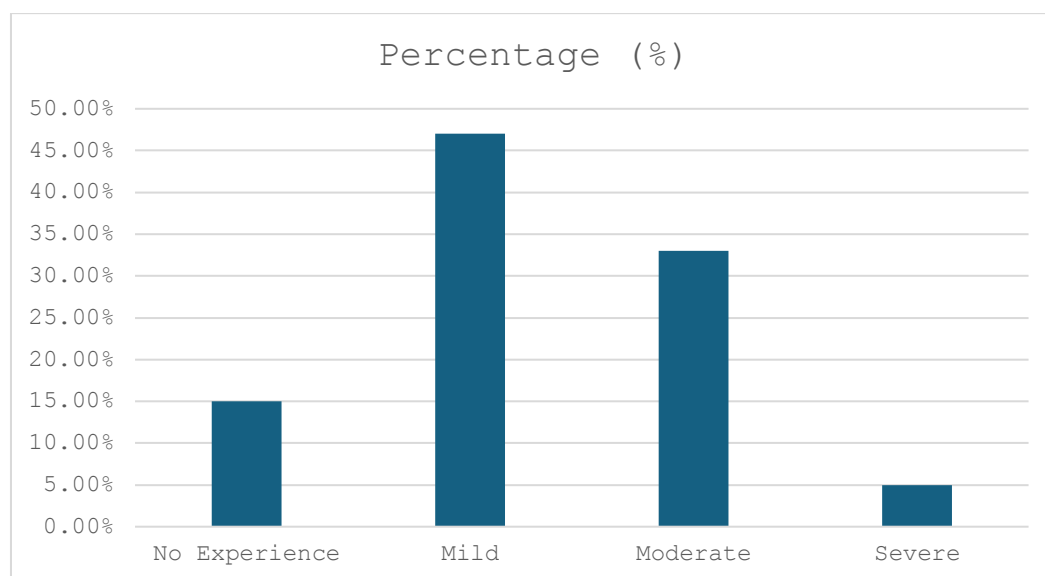


Figure 1. Gender Harassment frequency

Unwanted Sexual Attention (USA)

The USA subscale measured more overtly sexualized behaviors, such as inappropriate sexual comments, suggestive advances, and coerced online interactions. Figure 7 shows that 60 students (17.1%) reported no experience, 119 (34.0%) reported mild exposure, 128 (36.6%) reported moderate exposure, and 43 (12.3%) reported severe experiences. In total, over 82% of students had encountered some form of unwanted sexual attention online. This prevalence is slightly higher in moderate and severe categories compared to GH, suggesting that USA may leave a more immediate psychological impact. The results support the “continuum of sexual violence” framework, in which everyday intrusions can escalate into more severe violations if unaddressed.

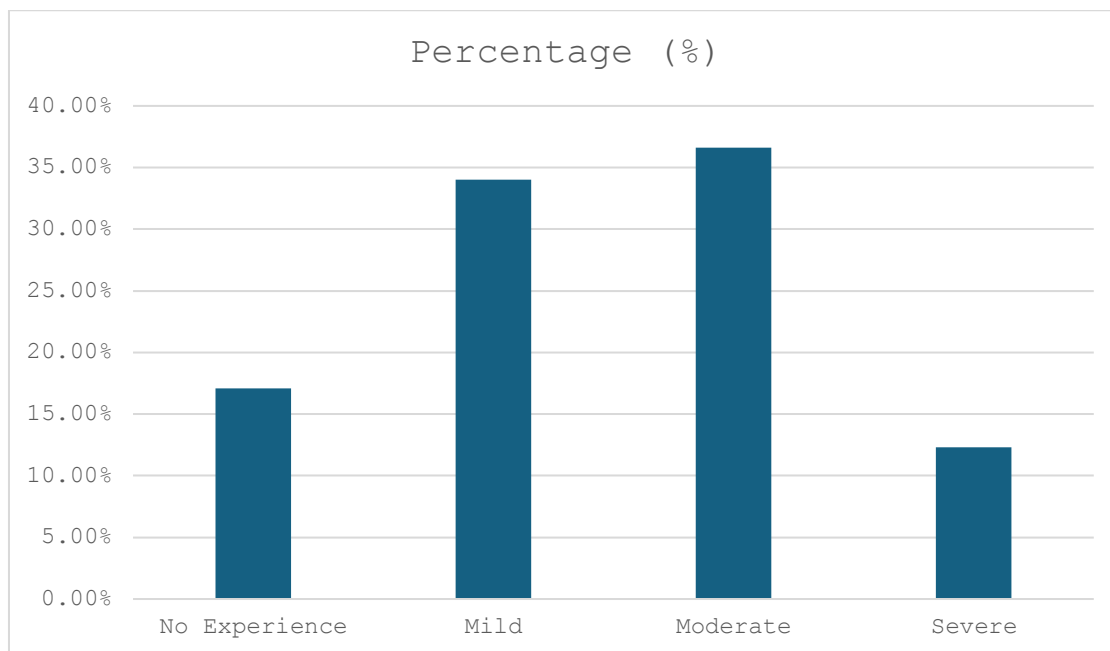


Figure 2. Unwanted sexual attention frequency

Overall Sexual Harassment (SH) Score

By combining GH and USA scores, an overall measure of online sexual harassment severity was computed (Figure 2). Of the 350 students, 53 (15.0%) reported no experience, 162 (47.0%) mild, 118 (33.0%) moderate, and 17 (5.0%) severe experiences. This means that 85% of participants had experienced some form of online sexual harassment. The high proportion in the Mild and Moderate categories suggests normalization or underreporting of these behaviors, while those in the Severe category are at heightened risk of psychological harm.

Demographic Differences in Sexual Harassment Prevalence

To examine whether online sexual harassment (SH) prevalence varied across demographic groups, independent samples t-tests were conducted for gender and institutional type, while a one-way ANOVA assessed differences by age group. The results are summarized in Table 5.

Table 5 Independent Samples t-Test Results for Online Sexual Harassment by Gender and Type of TVET Institution

Variable	Group 1 (Mean)	Group 2 (Mean)	t-value	p-value	Significance
Gender	13.21 (Male)	13.29 (Female)	-0.060	0.953	Not significant
TVET Type	13.51 (Public)	12.95 (Private)	0.480	0.631	Not significant

Across both gender and institutional type, mean SH scores were very similar, and none of the observed differences reached statistical significance. This suggests that, within the sampled TVET institutions, exposure

to online sexual harassment was reported at comparable levels across male and female students as well as across public and private institutions. A one-way ANOVA was then used to test for differences by age group, with the results shown in Table 6 alongside those for year of study and religion.

Table 6 One-Way ANOVA Results for Online Sexual Harassment by Age Group, Year of Study, and Religious Affiliation

Variable	Df (Between)	Df (Within)	F-Statistic	p-value	Interpretation
Age Group	2	347	2.83	0.060	Marginal, not significant
Year of Study	2	347	1.70	0.184	No significant difference
Religion	2	347	0.59	0.553	No significant difference

Although the age group comparison approached statistical significance ($p = 0.060$), it did not meet the conventional threshold, indicating that SH exposure was broadly consistent across the sampled age ranges. Similarly, no significant differences were observed by year of study or religious affiliation. Overall, the results indicate that demographic characteristics measured in this study were not strongly associated with variations in reported online sexual harassment.

Level of Psychological Distress Experienced by College Students

Psychological distress among college students is a growing concern, particularly in environments characterized by academic pressure, financial instability, and exposure to harassment. In this study, distress was operationalized using the Depression Anxiety and Stress Scales – 21 Items (DASS-21), comprising three constructs, depression, anxiety, and stress. Each construct contains seven items rated on a 4-point Likert scale from 0 (“Did not apply to me at all”) to 3 (“Applied to me very much or most of the time”). Final subscale scores range from 0 to 42 and are categorized into five severity levels, Normal, Mild, Moderate, Severe, and Extremely Severe, using the DASS-21 manual cut-offs.

Under typical conditions in non-clinical populations, the majority of individuals fall within the Normal to Mild ranges, with fewer exhibiting Moderate to Extremely Severe symptoms. Higher proportions in the severe categories suggest significant psychological burden, potentially exacerbated by stressors such as academic workload, financial hardship, or online sexual harassment. Table 7 presents the combined severity distribution for depression, anxiety, and stress among the 350 respondents.

Table 7 Severity Distribution of Psychological Distress Constructs (n = 350)

Severity Level	Depression n (%)	Anxiety n (%)	Stress n (%)
Normal	117 (33.43)	91 (26.00)	186 (53.14)
Mild	35 (10.00)	26 (7.43)	41 (11.71)
Moderate	97 (27.71)	82 (23.43)	63 (18.00)
Severe	45 (12.86)	40 (11.43)	49 (14.00)
Extremely Severe	56 (16.00)	111 (31.71)	11 (3.14)

Overall, 66.57% of students reported at least mild depressive symptoms, with nearly 29% in the Severe or Extremely Severe categories. Anxiety prevalence was even higher, with almost three-quarters of respondents reporting symptoms and 31.71% in the Extremely Severe category. Stress scores were comparatively more favorable, with 53.14% in the Normal range; however, almost half of the students still experienced at least mild stress, including 17.14% in the Severe or Extremely Severe categories.

These results align with Kenyan studies showing elevated distress in post-secondary students (Ng’eno et al., 2023; Owiti & Okeyo, 2021) and mirror global findings linking high anxiety and depression to academic challenges, inadequate mental health support, and socio-economic strain (Regehr et al., 2013). The disproportionately high levels of severe anxiety suggest systemic gaps in mental health infrastructure within Technical and Vocational Education and Training (TVET) institutions compared to universities, which often have more established counseling services (Mutua & Wambua, 2022).

Group Differences in Psychological Distress

Further analysis examined whether psychological distress varied by demographic factors such as gender, institution type, year of study, religion, and age group. Statistically significant differences emerged in certain domains. Female students recorded higher mean scores for anxiety compared to males, consistent with global trends linking gender to vulnerability to anxiety disorders. Students in public TVET institutions exhibited slightly higher depression and stress scores than their counterparts in private institutions, possibly reflecting differences in resource availability, class sizes, and counseling support. First-year students reported elevated stress levels, likely associated with adjustment challenges, while final-year students showed higher depression scores, potentially linked to academic workload and uncertainty about post-graduation employment. Religious affiliation appeared to play a protective role for some groups, with respondents identifying with faith communities reporting slightly lower average stress scores. However, age group differences were minimal, suggesting that distress levels were consistently high across young adult cohorts within the sample.

Correlation Analysis

Correlation analysis revealed strong positive associations between the three constructs. Depression and anxiety were highly correlated ($r > 0.70$, $p < 0.01$), indicating that students experiencing high levels of depressive symptoms were also likely to report elevated anxiety. Stress was moderately to strongly correlated with both depression and anxiety (r values between 0.60 and 0.70, $p < 0.01$), underscoring the interconnected nature of these mental health challenges. Importantly, higher scores in all three distress constructs were positively associated with experiences of online sexual harassment, suggesting that such experiences may exacerbate psychological vulnerability among TVET students. This reinforces the need for integrated institutional responses that address both the prevention of harassment and the provision of robust psychosocial support.

DISCUSSION

This study highlights the alarming prevalence of psychological distress among students in Technical and Vocational Education and Training (TVET) institutions, with a majority reporting symptoms of depression, anxiety, and stress, and a particularly high proportion experiencing severe anxiety. The strong association between online sexual harassment and elevated psychological distress underscores the multifaceted vulnerabilities of this population. These findings add to the growing recognition of student mental health as a critical public health issue, particularly within under-resourced vocational education settings.

The prevalence rates reported here are consistent with prior research across Africa and globally, confirming the widespread nature of mental health challenges among students. For instance, Ng'eno et al. (2023) found similarly elevated depression and anxiety levels among Kenyan university students, while Owiti and Okeyo (2021) identified anxiety as a major concern among technical college students. These results echo global meta-analyses showing that nearly one in three college students experience clinically significant psychological symptoms (Auerbach et al., 2018; Ibrahim et al., 2013; Li et al., 2022). Such high rates are typically linked to a combination of academic pressures, financial insecurity, and transitional life challenges, including navigating new social roles and responsibilities (Beiter et al., 2015; Makunda et al. 2024.). The substantial proportion of students in severe or extremely severe categories signals a clinically meaningful burden that likely affects academic performance, social functioning, and long-term wellbeing.

The TVET context introduces unique institutional and cultural dynamics that may exacerbate distress. Unlike universities, TVET institutions in Kenya often serve socioeconomically diverse and marginalized students who face uncertain employment prospects and limited institutional support (Mutua & Wambua, 2022). The lack of dedicated mental health professionals and weak psychosocial infrastructure create structural barriers to early identification and care, increasing the risk of chronic or worsening symptoms. Persistent stigma surrounding mental illness in Kenyan society further discourages help-seeking, especially among male students (WHO, 2022). This may explain the relative similarity in depression levels between genders observed here, challenging traditional expectations of higher female vulnerability and suggesting underreported male distress due to gender norms surrounding masculinity and emotional restraint (Eisenberg et al., 2007; Addis & Mahalik, 2003).

Digital behavior and exposure to online sexual harassment appear to be emerging but under-researched drivers of psychological distress among students. The near-equal distress levels reported across genders may reflect changing dynamics of harassment in online spaces, where anonymity and ubiquity expose all students to risk (Henry & Powell, 2018; Abozahra, 2024). The persistent and invasive nature of online harassment amplifies feelings of vulnerability, shame, and isolation (Livingstone & Görzig, 2014). These findings are consistent with global evidence linking cyber victimization to depression, anxiety, and suicidal ideation among youth (Kowalski et al., 2014; Hinduja & Patchin, 2010; Alhassan & Salifu, 2024). The absence of significant differences by institutional type further indicates that harassment and distress transcend public-private divides, pointing to wider societal and technological influences shaping student experiences.

From a public health and institutional standpoint, the implications are substantial. Addressing the mental health crisis in TVET institutions requires multi-level interventions. First, institutions should establish comprehensive mental health policies that incorporate routine screening, stigma-reduction campaigns, and confidential counseling services. Building capacity through counselor training and peer-support networks is especially critical where specialized personnel are lacking (Mutua & Wambua, 2022). Second, institutions should integrate digital safety education into student programs, equipping learners with skills to identify, resist, and report online harassment, supported by clear reporting protocols and disciplinary measures (Kenne et al., 2018; Pereira et al., 2023). Such strategies would mitigate psychological harm while promoting safer online environments.

The findings also suggest the need for targeted interventions that reflect demographic differences, particularly age-related vulnerabilities. Younger students may benefit from transition-focused programs that address adaptation and resilience, while older students may require supports tailored to financial and work-life balance stressors. These recommendations align with developmental psychopathology perspectives, which emphasize the importance of context-sensitive and age-appropriate approaches to mental health promotion (Compas et al., 2017).

Despite its contributions, the study has limitations. The cross-sectional design restricts causal inference, leaving open the possibility of bidirectional or confounded relationships between harassment and distress. Reliance on self-report measures raises the risk of social desirability bias, particularly given the stigma surrounding both sexual harassment and mental health in Kenyan culture. Future research would benefit from longitudinal and mixed-methods designs, incorporating qualitative interviews and multi-informant perspectives to capture temporal patterns and contextual nuances.

In conclusion, this study provides critical evidence of the significant psychological distress burden among TVET students in Nairobi and highlights the amplifying role of online sexual harassment. Addressing these challenges requires coordinated policy reform, capacity building, and community engagement. Elevating mental health as an institutional and policy priority in TVET settings is both an ethical obligation and a prerequisite for improving academic success and long-term social and economic outcomes for Kenya's youth.

CONCLUSION

This study reveals a high prevalence of psychological distress among students in TVET institutions, with a majority experiencing symptoms of depression, anxiety, and stress. Notably, there is a strong and concerning association between exposure to online sexual harassment and elevated levels of psychological distress. These findings underscore the urgent need to prioritize mental health within TVET settings, which often face unique challenges such as limited resources, inadequate counseling services, and socio-economic stressors.

Given the pervasive nature of distress across demographic groups and institutional types, comprehensive preventive and support interventions are essential. TVET institutions should implement targeted mental health programs, including early screening, psychoeducation, accessible counseling, and robust mechanisms to prevent and respond to online harassment. Addressing these mental health challenges is critical not only for enhancing students' academic success and well-being but also for fostering resilient and healthy communities poised to contribute meaningfully to Kenya's socio-economic development.

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