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Disability and sexual harassment and coercion in higher education in Ghana: the moderating role of financial support

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Abstract

Introduction Higher education students with disabilities are susceptible to all forms of violence and have an increased risk of sexual harassment and coercion (SHC). SHC victims face a range of structural and social marginalizations, including physical accessibility challenges, communication barriers, and social isolation, which truncate their ability to seek help or assert boundaries. In Ghana, where about 8% (2,098,138) of the population live with disabilities, SHC and how it varies across disability types and differential socioeconomic backgrounds have received limited scholarly attention. The present study, therefore, examines how socioeconomic background shapes the relationship between disability type and experience of SHC.

Methods We used a cross-sectional study design. A census approach was used to include all students with disabilities across four public universities in Ghana, who were available to participate ($n=438$). Experience of SHC was measured using the Sexual Harassment and Coercion Experience (SHCE) scale. The moderator variable was the source of financial support. Multiple linear regression was used to estimate the effects of independent variables on the dependent variables.

Results Participants reported various disabilities, including visual impairment (52.97%), physical disability **(**27.17%**),** hearing impairment **(**16.67%**),** and other disabilities (3.20%). Majority of participants relied on parents and relatives for financial support **(**62.33%), followed by scholarships **(**24.43%**)** and self-financing (13.24%). Compared to participants living with physical disability, visually impaired students experienced significantly higher SHCE overall ($B=0.241$, $p<0.01$), verbal sexual abuse ($B=0.373$, $p<0.001$), and sexual coercion ($B=0.249$, $p<0.01$). Students with hearing impairments who receive financial support from parents and relatives reported significantly lower SHCE compared to those who fund themselves.

Conclusion Experience of sexual harassment and coercion differs across disability types among university students. Considering the critical role of the source of financial support in SHCE, it is imperative that students with disabilities are provided a sustainable source of funding along with protective interventions tailored to diverse disability

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conditions. More importantly, universities ought to prioritise a multi-level and inclusive approach to achieve equitable educational experiences for all learners.

Keywords Abuse, Tertiary education, Vulnerability, Support, Justice, Ghana

Introduction

Sexual harassment and coercion (SHC) are critical concerns in higher education globally as these intersect with complex factors such as gender, disability, and socioeconomic status [1–3]. Sexual coercion refers to "any situation in which one party uses verbal or physical means (including administering drugs or alcohol to the other party either with or without her consent) to obtain sexual activity against freely given consent" [4]. Sexual harassment, on the other hand, refers to "Sexual harassment is unwelcome conduct of a sexual nature, which can include unwelcome sexual advances, requests for sexual favours, or other verbal, nonverbal, or physical conduct of a sexual nature." [5]. Victims of SHC who have disabilities face a range of structural and social marginalizations. These include physical accessibility challenges, communication barriers, and social isolation, which restrict their ability to seek help or assert boundaries [6]. It is worth noting that a number of these cases occur in tertiary academic institutions [7, 8].

Evidence from sub-Saharan Africa indicates that persons with disabilities face elevated risks of sexual violence, coercion, and exploitation, driven by stigma, poverty, social exclusion, and unequal access to education and protection [9]. A meta-analysis of 68 studies found that individuals with disabilities were significantly more likely to experience sexual victimization than those without disabilities, with sensory impairment associated with the highest risk [10].

In Ghana, existing studies have similarly shown that students and young people with disabilities experience sexual coercion and harassment, with differences observed by disability type [11, 12]. However, these studies remain limited in scope and do not fully explain how socioeconomic resources, particularly financial support, shape these experiences in tertiary institutions.

Persons with disabilities are particularly susceptible to all forms of violence and have an increased risk of sexual coercion and harassment [10]. The Cambridge Dictionary defines disability as "an illness, injury, or condition that makes it difficult for someone to do the things that other people do." Globally, about 16% (about 1.3 billion) of the population lives with disability [13]. In the case of Ghana, approximately 8% of the population lives with disabilities [14]. Financial hardship compounds the SHC vulnerability of students with disabilities, as they usually face limited access to campus resources and inadequate support systems [3]. Financial support is central to the lived experience of students with disabilities. This is because it affects access to education, transport, assistive devices, accommodation, healthcare, and other disability-related expenses [15, 16]. When support is inadequate, dependence and social vulnerability increase, which may heighten exposure to exploitation and sexual harm [15]. Persons with disabilities have high susceptibility to elevated SHC exacerbated by social exclusion and systemic disadvantage; however, little is known about SHC experiences across disability types [6, 10].

Studies on SHC in Ghana schools have predominantly focused on the general student population either at the secondary or tertiary level [3, 17–19]. The only existing study that focused on SHC among tertiary students with disabilities was conducted in a single institution, leaving the broader incidents of students with disabilities in other tertiary institutions [12]. Besides, the study did not investigate the moderating role of the source of financial support in the relationship between disability and SHCE. In spite of the acknowledged plethora of empirical evidence, what is less clear is how SHC differ across disability types. The paucity of empirical evidence on sexual harassment and coercion among persons with disabilities across tertiary educational institutions in Ghana necessitates the need for an inquiry into their experiences with respect to the type of SHC. Understanding the extent to which persons with disabilities in Ghanaian tertiary institutions experience and navigate through sexual coercion/harassment can better inform the educational sector to develop well-tailored interventions.

The risk–resource framework also explains how risks and resources combine to shape vulnerability [20]. Risk factors include poverty, stigma, inaccessible environments, and power imbalances in tertiary institutions. Resources include family and peer support, disability services, financial aid, and institutional safeguarding. Risk factors increase the chance of sexual harassment and coercion. Resources can buffer these risks and reduce harm. In this study, the framework supports investigation into the financial support, disability status and type, and experiences of sexual harassment and coercion together. It guides the research questions towards how specific risks and resources in Ghanaian tertiary settings may heighten or reduce exposure to sexual harm among students with disabilities.

Consequently, this study examines these differences and explores how socioeconomic resources shape the relationship between disability type and SHC. By investigating intersectional vulnerabilities whilst challenging the victim-blaming trap, the study seeks to inform robust

policy and practice for safer, more equitable Ghanaian higher education.

Research questions

These questions follow a risk-resource factor framework, where disability type represents a risk factor, and financial support serves as a resource.

1. What is the effect of disability type on the experience of SHC and its subdomains (i.e. Non-Verbal Sexual Abuse [NVSA], Verbal Sexual Abuse [VSA], and Sexual Coercion [SC]) among students with disabilities?
2. What is the effect of the source of financial support on the experience of SHC and its subdomains among students with disabilities?
3. Does financial support moderate the relationship between disability type and sexual harassment experiences?"

Methods

Study design and setting

Cross sectional study was executed [21]. A cross-sectional design was appropriate because it allowed us to estimate the prevalence of sexual harassment/coercion and examine associations between disability type, financial support, and SHC at a single point in time. It is suitable for analytic population studies where the main aim is to describe patterns and compare exposure groups, although causal inference is limited [22]. This quantitative study was conducted in five public universities in Ghana: The University of Ghana (UG), Kwame Nkrumah University of Science and Technology (KNUST), University of Cape Coast (UCC), University of Education (UEW), Winneba and the University for Development Studies (UDS). These universities were selected based on their long-standing establishment (before 2015) and their policies supporting students with disabilities. Public universities were chosen because they generally have better infrastructure and resources for students with disabilities, making them the preferred option for most individuals in this group.

Sampling and participants

The study targeted students with disabilities who were officially registered with their respective universities. Eligibility criteria included being 18 years or older and having a documented disability, as recognized by the university. Disabilities considered in the study included physical, visual, hearing, and other disabilities. A census approach was used to include all eligible students across the selected universities, as the number of students with disabilities in Ghanaian public universities is relatively low. In total, 438 students participated across the five universities. The number of participants per university was as follows: University of Ghana (UG; n = 113), Kwame Nkrumah University of Science and Technology (KNUST; n = 60), University of Cape Coast (UCC; n = 76), University of Education, Winneba (UEW; n = 173), and University for Development Studies (UDS; n = 16). Although a sampling strategy was initially planned, all eligible students who met the inclusion criteria at each institution participated due to the small number, resulting in a census of the eligible population in these universities.

Data collection

Data collection was conducted by a team of five trained field assistants (both male and female) from the Department of Special Education, University of Education, Winneba; KNUST Centre for Disability and Rehabilitation Studies (CEDRES); University of Ghana and University of Cape Coast Disability support centres. These assistants had prior experience communicating effectively with individuals with disabilities. Training covered ethical considerations such as obtaining informed consent, ensuring data confidentiality, respecting participants' privacy, managing emotional distress, and securing collected data. Data were collected between June and October 2024. Trained research assistants approached eligible students through disability support offices and referrals and invited them to participate. Interested students completed a structured questionnaire in a suitable format according to their preference (e.g., braille for the blind), in a private setting on campus. Each participant received a compensation of GHc 20.00 (approx. USD 2.05) to compensate for transport and time costs. No identifying information was collected on the questionnaire, and completed forms were stored in a locked cabinet. Electronic data were password-protected and accessible only to the core research team.

Measures

Dependent variable

Sexual harassment and coercion experience (SHCE)

The study measured experiences of SHC using the Sexual Harassment and Coercion Experience (SHCE) scale, a 16-item instrument developed based on a literature review, expert insights, and based on prior research [12]. The authors designed the SHCE scale to capture various forms of sexual victimization experienced by students with disabilities in Ghanaian public universities. Factor analysis did not reveal distinct sub-domains, but a conceptual grouping of items resulted in three subdomains: Verbal Sexual Abuse (VSA), Non-Verbal Sexual Abuse (NVSA), and Sexual Coercion (SC). The full scale demonstrated strong internal consistency in this sample (Cronbach's alpha = 0.90), and each sub-domain

also showed acceptable reliability (see Table 1). Participants rated their experiences on a 5-point Likert scale, where 0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, and 4 = Very Often. To estimate prevalence, we classified an experience as present if it occurred at least sometimes (2–4), allowing us to focus on meaningful exposure while avoiding the overestimation that might result from including rare or one-time occurrences.

Verbal sexual abuse (VSA)

Verbal sexual abuse refers to offensive verbal interactions such as inappropriate sexual remarks, rumours, and name-calling. This sub-domain demonstrated acceptable reliability (Cronbach's Alpha = 0.7443). Nearly one in four respondents (25.6%) had at least sometimes experienced sexually offensive comments, while 20.3% had been subjected to sexual rumours at the same frequency. Engagement in sexually uncomfortable conversations was more common, with 38.1% reporting this experience at least sometimes. Being called sexually provocative names was reported by 19.4% of respondents at least sometimes. These findings suggest that verbal forms of harassment are prevalent among students with disabilities, with sexually inappropriate conversations and offensive remarks being the most reported.

Non-verbal sexual abuse (NVSA)

Non-verbal sexual abuse includes sexually suggestive gestures, exposure to offensive sexual materials, and receipt of inappropriate gifts. This sub-domain had a reliability of 0.7213. More than a quarter of respondents (27.4%) reported being looked at in a sexually uncomfortable way at least sometimes, while 25.8% had experienced sexually offensive gestures. Exposure to offensive sexual materials, such as videos or pictures, was reported by 15.5% of participants at least sometimes. Receiving inappropriate gifts, such as underwear, was less frequent but still present, with 7.2% of respondents experiencing this at least sometimes. Additionally, 20.1% had been exposed to someone's private body parts at least sometimes. While these behaviours were less commonly reported than verbal abuse, their occurrence highlights the diverse ways in which students with disabilities experience sexual victimization in university settings.

Sexual coercion (SC)

Sexual coercion encompasses coercive and forceful behaviours, including pressure for relationships, unwanted physical contact, and attempted or completed sexual assault. This sub-domain had the highest internal reliability (Cronbach's Alpha = 0.7991) (see Table 1). More than a quarter of respondents (29.7%) reported

Table 1 Summary statistics and psychometric properties of the SHCE scale and its sub-domains

SN	How often has…	0	1	2	3	4
	N = 438	%	%	%	%	%
Sexual Harassment and Coercion Experience (SHCE) (Cronbach Alpha = 0.9005)						
	Verbal sexual abuse (VSA) (Cronbach Alpha = 0.7443)					
C1	Someone made sexual remarks or sexually offensive comment about you	59.82	14.61	21.69	2.74	1.14
C3	Someone has spread sexual rumours about you	70.78	8.90	13.01	5.48	1.83
C12	Someone engages you in sexual conversation which makes you uncomfortable	47.26	14.61	26.94	8.45	2.74
C13	Someone has been calling you sexually provocative names	68.95	11.64	13.47	2.97	2.97
	Non-verbal sexual abuse (NVSA) (Cronbach Alpha = 0.7213)					
C2	Someone looked at you sexually which made you feel uncomfortable	56.85	15.75	19.86	5.25	2.28
C5	Someone made sexually offensive gestures towards you	59.36	14.84	20.09	3.20	2.51
C7	Someone has been showing offensive sexual materials (videos/pictures) to you	72.37	12.10	12.33	2.51	0.68
C8	Someone has been giving you inappropriate gifts (e.g., underwear)	81.74	10.05	5.71	1.37	1.14
C9	Someone has exposed parts of his/her body to you	66.44	12.33	15.75	4.34	1.14
	Sexual coercion (SC) (Cronbach Alpha = 0.7991)					
C4	Someone put pressure on you to go out with him/her	59.13	11.19	20.55	5.71	3.42
C6	Someone has persistently asked you for a sexual relationship	58.68	13.70	18.26	6.62	2.74
C10	Someone has made attempts to rape you	82.65	7.76	6.85	2.05	0.68
C11	Someone has raped you	92.47	4.11	2.05	1.14	0.23
C14	Someone attempted to kiss you or forced you to kiss him/her	65.53	10.96	17.35	3.65	2.51
C15	Someone touched you in a sexually provocative manner	58.68	14.38	20.32	4.34	2.28
C16	Someone sends seductive materials to you via a social media platform	69.41	10.96	13.24	3.65	2.74

VSA Verbal sexual abuse, *NVSA* Non-verbal sexual abuse, *SC* Sexual coercion

being pressured to go out with someone at least sometimes, and 28.6% had persistently been asked for a sexual relationship. Severe forms of coercion, such as attempted rape, were reported by 9.6% of respondents at least sometimes, while 4.4% had been raped at least rarely. Forced kissing was reported by 23.5% of participants at least sometimes, and 26.9% had experienced unwanted sexual touching. Additionally, 19.6% had received seductive materials via social media at least sometimes. These findings indicate that while direct physical assault is less common, coercive tactics such as persistent pressure and forced physical contact are widespread among students with disabilities.

Independent, moderator, and control variables

The independent variable in this study was disability type, which classified participants based on their reported form of disability. To facilitate analysis, disability type was recoded into four categories: physical disability (reference category), visual impairment, hearing impairment, and others. The 'others' category included individuals with speaking challenges and multiple disabilities.

The moderator variable was the source of financial support, which was analysed to determine its influence on the relationship between disability type and experiences of sexual harassment and coercion. This variable was recoded into three categories: self-funded, scholarship, and family support. The family support category combined individuals who reported receiving financial assistance from parents or other relatives.

Several control variables were included to account for potential confounding effects. Gender was recoded as a binary variable, with male coded as 0 and female as 1. Marital status was grouped into three categories: single, married, and others, where the "others" category included divorced, widowed, cohabiting, and separated individuals. Religious background was categorized into Christian, Muslim, and others, with the "others" group including traditionalists and those who did not specify a religious affiliation. University level was classified into five groups: Year 1, Year 2, Year 3, Year 4, and postgraduate, with postgraduate being graduate students. Finally, part-time work status was treated as a binary variable, with those who reported working while studying coded as 1 and those who did not as 0. These control variables were selected based on their relevance as key sociodemographic factors based on existing literature [10].

Data management and analysis

Data were cleaned, managed, and analysed using Stata version 17. First, data screening and cleaning were performed to check for entry errors. Descriptive statistics, including frequency counts, percentages, means, and standard deviations, were used to summarize the study variables and sample characteristics. To assess measurement reliability, inter-item reliability analysis was conducted for the dependent variable. Multiple linear regression was used to estimate the effects of independent variables (i.e. disability type and source of education financing) on the dependent variables. Multiple linear regression was used because the dependent variables were continuous. The mean VIF was 1.63, and all individual VIF values were below the commonly accepted threshold (VIF < 10), with values also well under the more conservative cut-off of 5, indicating no evidence of multicollinearity. Missing data were handled using listwise (complete-case) deletion. Of the 438 respondents, one case with missing values on key analysis variables was excluded, resulting in an analytic sample of 437 participants, for the regression analysis. Given that the proportion of missing data was very small (approximately 0.2%), no imputation procedures were applied. All statistical significance was pegged at a 95% confidence level.

Ethical considerations

The study adhered to ethical guidelines for research involving human subjects. Ethical approval was obtained from the University of Cape Coast (ID: UCCIRB/EXT/2022/17), and the research was conducted in accordance with the ethical protocols of all participating universities. Participation was entirely voluntary, and data were collected only after obtaining informed consent from each respondent. Participants provided consent either by signing or thumbprinting the consent form, ensuring that those with different levels of literacy could fully understand and agree to participate.

Results

Summary statistics of study variables

Table 2 presents the summary statistics for the study variables, including the dependent variable (Sexual Harassment and Coercion Experience), independent variables (disability type and source of education financing), and control variables (gender, age, university grade, marital status, religion, and part-time work status).

The SHCE scale measures the overall experience of sexual harassment and coercion. The mean scores of the SHCE scale and its sub-domains represent the average frequency of sexual harassment and coercion experiences among respondents. Since the composite scores were averaged, the ideal range of responses should have been 0 to 4, with higher scores indicating more frequent experiences of harassment or coercion. However, the observed mean scores for the SHCE scale of 0.6234 (SD = 0.6226) and its sub-domains—verbal sexual abuse (Mean = 0.7340, SD = 0.7864), non-verbal sexual abuse (Mean = 0.5872, SD = 0.6495), and sexual coercion Mean = 0.5861 (SD = 0.6551)—suggest that, on average,

Table 2 Summary statistics of study variable (*N* = 438)

Variable	N (%)	Mean	Std. dev	Min	Max	α
Dependent variable						
Sexual Harassment and Coercion Experience (SHCE)	438 (100)	0.6234	0.6226	0	2.75	0.9005
Verbal sexual abuse (VSA)	438 (100)	0.7340	0.7864	0	3.27	0.7443
Non-verbal sexual abuse (NVSA)	438 (100)	0.5872	0.6495	0	3.20	0.7213
Sexual coercion (SC)	438 (100)	0.5861	0.6551	0	3.29	0.7991
Independent variable						
Disability type						
Physical	119(27.17)					
Visual impairment	232(52.97)					
Hearing impairment	73(16.67)					
Others	14(3.20)					
Moderator						
Source of education financing						
Self	58(13.24)					
Scholarship	107(24.43)					
Parents & relatives	273(62.33)					
Control variables						
Gender						
Male	243(55.48)					
Female	195(44.52)					
Age	437(100)	25.8558	4.9719	18	54	
University grade						
Year 1	107(24.43)					
Year 2	113(25.80)					
Year 3	117(26.71)					
Year 4	75(17.12)					
Postgraduate	26(5.94)					
Marital status						
Married	37(8.45)					
Single	386(88.13)					
Others	15(3.42)					
Religion						
Muslim	64(14.61)					
Christian	367(83.79)					
Others	7(1.60)					
Part-time work						
No	371(84.70)					
Yes	67(15.30)					

participants reported experiencing these incidents less frequently, falling closer to the lower end of the scale**.** The standard deviations (ranging from 0.6226 to 0.7864**)** indicate variability in the responses. A higher standard deviation suggests greater differences in the experiences of sexual harassment and coercion of the participants, suggesting that while some participants reported little to no harassment or coercion, others experienced it more frequently. The relatively moderate standard deviations across the sub-scales reflect a mix of experiences within the sample. These descriptive results highlight that, while sexual harassment and coercion are present, most respondents reported infrequent occurrences. However, the presence of extreme values (e.g., maximum scores exceeding 3) indicates that a subset of individuals experienced frequent harassment and coercion.

The study focused on two independent variables: disability type and source of education financing. The results revealed a predominance of visual impairment among participants, with most relying on family support as their primary source of education financing. Specifically**,** the analyses revealed that participants reported various disabilities, with the majority having visual impairment (52.97%), followed by physical disability **(**27.17%**),** hearing impairment **(**16.67%**),** and other disabilities (3.20%) (see Table 2). Also, the study shows that the majority (62.33%) of participants relied on parents and relatives

for financial support, followed by scholarships (24.43%) and self-financing (13.24%).

Regarding control variables, the results show variations in the sociodemographic characteristics of participants, including gender, age, academic level, marital status, religion, and part-time work engagement. The sample consisted of 55.48% males and 44.52% females. The average age of respondents was 25.86 years (SD = 4.97), with ages ranging from 18 to 54 years. Participants were distributed across academic years, with the highest proportion in Year 3 (26.71%), followed by Year 2 (25.80%), Year 1 (24.43%), Year 4 (17.12%), and postgraduate students (5.94%). The majority were single (88.13%), while 8.45% were married, and 3.42% fell into other categories. Most participants identified as Christian (83.79%), followed by Muslim (14.61%) and other religious affiliations (1.60%). Additionally, 84.70% of respondents reported not engaging in part-time work, while 15.30% did (see Table 2).

Table 3 SHCE regressed on disability type and source of financial support and other control variables

	SHCE	VSA	NVSA	SC
	B [S.E]	B [S.E]	B [S.E]	B [S.E]
Gender (ref: male)				
Female	0.160**	0.144	0.0852	0.223***
	[0.0600]	[0.0764]	[0.0634]	[0.0631]
Age	−0.0199**	−0.0223*	−0.0185*	−0.0196*
University grade (ref: Year 1)	[0.00731]	[0.00932]	[0.00773]	[0.00769]
Year 2	0.226**	0.205	0.298***	0.187*
	[0.0825]	[0.105]	[0.0873]	[0.0869]
Year 3	0.347***	0.377***	0.346***	0.330***
	[0.0822]	[0.105]	[0.0869]	[0.0865]
Year 4	0.210*	0.187	0.209*	0.224*
	[0.0936]	[0.119]	[0.0990]	[0.0985]
Postgraduate	0.368**	0.340	0.365*	0.386**
	[0.139]	[0.177]	[0.147]	[0.146]
Marital status (Ref: married)				
Single	−0.122	−0.0220	−0.189	−0.131
	[0.124]	[0.158]	[0.131]	[0.131]
Others	0.173	0.401	0.0926	0.0999
	[0.192]	[0.245]	[0.203]	[0.202]
Religion (Ref: Muslim)				
Christian	−0.0817	−0.0688	−0.0864	−0.0857
	[0.0829]	[0.106]	[0.0876]	[0.0872]
Others	0.386	0.276	0.387	0.447
Part-time work (ref: No)	[0.242]	[0.308]	[0.256]	[0.255]
Yes	0.0355	0.0230	0.0561	0.0279
	[0.0941]	[0.120]	[0.0995]	[0.0990]
Source of education financing (ref: Self)				
Scholarship	−0.0920	−0.00831	−0.104	−0.131
	[0.112]	[0.143]	[0.119]	[0.118]
Parents & relatives	−0.0995	−0.0778	−0.0609	−0.139
	[0.106]	[0.135]	[0.112]	[0.112]
Disability type (ref: Physical)				
Visual impairment	0.241**	0.373***	0.124	0.249**
	[0.0728]	[0.0927]	[0.0769]	[0.0766]
Hearing impairment	0.263**	0.391**	0.189	0.244*
	[0.0970]	[0.124]	[0.103]	[0.102]
Others	0.0231	0.0797	−0.0782	0.0631
	[0.172]	[0.220]	[0.182]	[0.182]
_cons	0.929***	0.880*	0.990***	0.913**
	[0.280]	[0.356]	[0.296]	[0.294]
N	437	437	437	437
R-sq	0.108	0.093	0.084	0.108
Adj. R-sq	0.074	0.058	0.049	0.074
AIC	809.5	1021.2	858.3	854.1
BIC	878.9	1090.6	927.7	923.4

SHCE regressed on disability type and source of financial support and other controls

Table 3 presents the regression results of the associational effect of source of education financing, and disability type and other covariates such as gender, age, university grade, marital status, religion, part-time work on SHCE and its three subdomains—VSA, NVSA, and SC. Regarding our two focal independent variables, the result shows the following: first, compared to individuals who are self-funding themselves in school, Neither scholarship recipients nor those financially supported by parents/relatives show significant differences in SHCE or its subdomains compared to self-financed students. Secondly, compared to participants living with physical disability, those who indicated being visually impaired experience significantly higher SHCE overall (B = 0.241, $p < 0.01$), verbal sexual abuse (B = 0.373, $p < 0.001$), and sexual coercion (B = 0.249, $p < 0.01$) (see Table 3). Hearing-impaired individuals also show significant higher scores of SHCE (B = 0.263, $p < 0.01$), verbal sexual abuse (B = 0.391, $p < 0.01$), and sexual coercion (B = 0.244, $p < 0.05$). Those with other forms of disabilities do not show any significant differences compared to individuals with physical disabilities.

The results further revealed associations between sociodemographic control variables and experiences of sexual harassment and coercion (SHCE), highlighting significant patterns across gender, age, university grade, marital status, religion, and part-time work. Being female is significantly associated with higher SHCE scores (B = 0.160, $p < 0.01$) and increased experiences of sexual coercion (B = 0.223, $p < 0.001$), though not with verbal or non-verbal sexual abuse. This suggests that females are more likely to encounter coercive forms of harassment rather than verbal or non-verbal abuse. Age is negatively associated with all measures of SHCE (B = −0.0199, $p < 0.01$ for overall SHCE), indicating that older participants report fewer experiences of sexual harassment and coercion. The strongest negative association appears in verbal sexual abuse (B = −0.0223, $p < 0.05$).

University grade also shows significant associations with SHCE. Year 3 students report the highest SHCE scores (B = 0.347, $p < 0.001$), with significant increases across all subdomains. Year 2 students experience more non-verbal sexual abuse (B = 0.298, $p < 0.001$) and higher overall SHCE (B = 0.226, $p < 0.01$). While Year 4 and postgraduate students also report higher SHCE, postgraduate students show the highest increase in sexual coercion (B = 0.386, $p < 0.01$). Marital status does not exhibit a significant association with overall SHCE or its subdomains. Although the coefficient for participants with other forms of disability on verbal sexual abuse is positive (B = 0.401), it is not statistically significant (see Table 3). Religious affiliation does not show significant associations with SHCE or any of its subdomains. Similarly, part-time work status is not significantly linked to SHCE experiences.

SHCE regressed on the interaction terms between disability type and source of financial support

Table 4 presents regression results examining whether the interaction between disability type and source of financial support influences sexual harassment and coercion experiences (SHCE). The analysis assesses whether the combination of these factors reduces SHCE scores compared to their independent effects. While financial support alone does not significantly affect overall SHCE or its subdomains (see Table 4), the interaction terms with disability type reveal some nuanced findings. The results indicate that students with hearing impairments who receive financial support from parents and relatives report significantly lower SHCE scores compared to those who fund themselves. This effect is particularly notable in overall SHCE (−0.515, $p < 0.05$) and sexual coercion (−0.625, $p < 0.05$), suggesting that family support may offer a protective effect against harassment and coercion. In contrast, the interactions between visual impairment and source of funding, whether from scholarships or parental support, do not significantly affect SHCE. Similarly, no significant effects emerge for the interactions involving hearing impairment and scholarships or for other disabilities and any source of financial support. These findings suggest that funding sources do not consistently modify SHCE experiences across different disability types.

The negative interaction effect for hearing impairment and parental support suggests that parental involvement may help protect students with hearing impairments from harassment and coercion. This protective effect could stem from closer family monitoring, greater financial security, or reduced exposure to risky environments, such as avoiding financial strain that might lead to increased dependence on others. However, the absence of significant interactions for other disability types suggests that financial support does not meaningfully alter SHCE experiences for students with visual impairments or other disabilities.

Discussion

This study elucidates the interplay between disability type, gender, educational context, and sexual harassment and coercion experiences (SHCE) among university students in Ghana. The finding that visually and hearing-impaired students report significantly higher SHCE compared to their physically disabled peers underscores the heightened vulnerability associated with sensory impairments [23]. These outcomes are congruent with some existing studies demonstrating that students with sensory disabilities often face distinct and pervasive forms of abuse, attributable to communication barriers and increased social isolation [24, 25]. The elevated verbal sexual abuse and coercion against these groups align with theoretical perspectives on the exacerbated risks faced by individuals whose disabilities limit their capacity to easily seek support or respond to violence [26, 27].

The finding that the source of education financing did not directly influence SHCE challenges predominant narratives linking economic vulnerability with increased risk of victimization [28, 29]. The pattern suggests that financial support may not function simply as a direct protective factor, but rather as a context-dependent resource whose influence on SHCE varies by disability type, social dependence, and access to informal support networks [30, 31]. The observation suggests that financial support may not function simply as a direct protective factor, but rather as a context-dependent resource whose influence on SHCE varies by disability type, social dependence, and access to informal support networks. The finding that the source of education financing did not directly influence SHCE challenges the assumptions that economic vulnerability necessarily increases the risk of victimization. In the Ghanaian context, this finding is particularly important.

Previous studies have shown that students with disabilities experience sexual harassment and coercion at notable rates, regardless of economic status, suggesting that structural and attitudinal barriers may be more influential than financial factors alone [12, 32]. For example, Gbagbo et al. [12] reported that students with disabilities in a Ghanaian public university had limited awareness of sexual harassment policies and little involvement in related decision-making, which may intensify vulnerability irrespective of financial support. By contrast, Fielding-Miller et al. [33] found in Eswatini that economic hardship, including food insecurity, was associated with higher sexual harassment risk among university women. This difference may reflect contextual variation between Ghana and Eswatini and underscores the importance of

Table 4 SHCE regressed on the interaction terms between disability type and source of financial support

	SHCE	VSA	NVSA	SC
	B [S.E]	B [S.E]	B [S.E]	B [S.E]
Gender (ref: male)				
Female	0.167**	0.150	0.0879	0.233***
	[0.0605]	[0.0771]	[0.0643]	[0.0636]
Age	−0.0188*	−0.0212*	−0.0179*	−0.0180*
	[0.00742]	[0.00946]	[0.00788]	[0.00780]
University grade (ref: Year 1)				
Year 2	0.223**	0.197	0.296***	0.185*
	[0.0830]	[0.106]	[0.0880]	[0.0872]
Year 3	0.346***	0.367***	0.347***	0.334***
	[0.0834]	[0.106]	[0.0885]	[0.0876]
Year 4	0.196*	0.167	0.202*	0.208*
	[0.0957]	[0.122]	[0.102]	[0.101]
Postgraduate	0.410**	0.380*	0.394**	0.437**
	[0.142]	[0.181]	[0.151]	[0.149]
Marital status (Ref: married)				
Single	−0.0949	0.0102	−0.175	−0.0978
	[0.126]	[0.161]	[0.134]	[0.133]
Others	0.193	0.436	0.104	0.118
	[0.193]	[0.246]	[0.205]	[0.203]
Religion (Ref: Muslim)				
Christian	−0.0985	−0.0819	−0.0966	−0.109
	[0.0841]	[0.107]	[0.0893]	[0.0884]
Others	0.359	0.257	0.366	0.413
	[0.243]	[0.310]	[0.258]	[0.256]
Part-time work (ref: No)				
Yes	0.0470	0.0333	0.0642	0.0426
	[0.0945]	[0.120]	[0.100]	[0.0993]
Source of education financing (ref: Self)				
Scholarship	0.112	0.133	0.0324	0.157
	[0.199]	[0.254]	[0.211]	[0.209]
Parents & relatives	0.141	0.110	0.0890	0.196
	[0.194]	[0.248]	[0.206]	[0.204]
Disability type (ref: Physical)				
Visual impairment	0.421*	0.421	0.249	0.543*
	[0.214]	[0.272]	[0.227]	[0.225]
Hearing impairment	0.608**	0.735**	0.402	0.683**
	[0.221]	[0.282]	[0.235]	[0.232]
Others	−0.167	0.0803	−0.286	−0.224
	[0.640]	[0.816]	[0.680]	[0.673]
Visual Impairment x Scholarship	−0.209	−0.0553	−0.160	−0.332
	[0.250]	[0.319]	[0.265]	[0.263]
Visual Impairment x Parents & Relatives	−0.210	−0.0678	−0.139	−0.343
	[0.231]	[0.294]	[0.245]	[0.242]
Hearing Impairment x Scholarship	−0.278	−0.225	−0.159	−0.395
	[0.282]	[0.359]	[0.299]	[0.296]
Hearing Impairment x Parents & Relatives	−0.515*	−0.564	−0.321	−0.625*
	[0.256]	[0.327]	[0.272]	[0.269]
Other Impairment x Scholarship	0.0265	−0.408	0.0385	0.266
	[0.776]	[0.989]	[0.824]	[0.816]
Other Impairment x Parents & Relatives	0.216	0.0517	0.247	0.289
	[0.669]	[0.852]	[0.710]	[0.703]
_cons	0.685*	0.687	0.840*	0.574

Table 4 (continued)

	SHCE	VSA	NVSA	SC
	[0.324]	[0.413]	[0.344]	[0.341]
N	437	437	437	437
R-sq	0.120	0.104	0.089	0.122
Adj. R-sq	0.073	0.057	0.041	0.075
AIC	815.9	1027.6	867.9	859.2
BIC	909.8	1121.4	961.8	953.1

situating financial vulnerability within specific social and institutional environments [34].

As advanced by the risk–resource framework, the study argues that sexual harassment and coercion reflect a mix of risks and resources in students' lives [20]. Risks include financial hardship, stigma, dependence on others, and weak institutional safeguards. Resources include stable financial support, disability services, supportive peers and family, and accessible reporting pathways [35]. When risks accumulate and resources are scarce, students with disabilities face more sexual harassment and coercion [35]. When resources are present and used, these harms are less frequent and sometimes less severe. Consistent with the risk–resource framework outlined earlier, the study therefore argues that action must both reduce key risks and strengthen resources at individual, relational, and institutional levels.

Gender differences observed in the study reaffirm well-established patterns where female students disproportionately experience sexual coercion [36, 37]. This may reflect gendered manifestations of sexual violence, where coercion represents a more overt form of control typically directed toward females [38]. The negative association between age and SHCE similarly consolidates evidence that younger students are at greater risk for sexual victimization [39], potentially due to less developed coping mechanisms and reduced social capital within university environments.

Academic standing emerged as a significant correlate, with Year 3 students reporting the highest SHCE scores. This diverges from some studies attributing high vulnerability to first-year students as they are usually adjusting to new environments [40, 41]. The elevated risks for mid-level undergraduates and postgraduates may reflect cumulative exposure over time or transitions involving complex social networks and increased independence [42]. It also suggests that interventions need to extend beyond orientation periods to consider the exposure dynamics experienced throughout academic progression.

The lack of significant influence of marital status, religion, and part-time work on SHCE contrasts with studies suggesting that socio-cultural factors and work-related stress can modify sexual violence risk [43]. This may reflect specific situational factors within the study population or varying degrees of social integration that mediate these relationships.

Implications for research and practice

The differential effects of disability type and financial support on SHCE underscore the necessity for more nuanced, disability-specific research. Future studies may disaggregate disability categories further and incorporate qualitative methodologies to capture the lived realities and contextual factors influencing harassment dynamics. Understanding why family financial support buffers hearing-impaired students but not visually impaired students could reveal critical protective mechanisms or unmet needs.

Besides, experimental evaluations of tailored training and support programs are imperative to establish evidence-based best practices for inclusive campus safety, aligning with legal standards and promoting a culture of dignity and respect [36].

Limitations of the study

This study has some limitations. The data are self-reported and may be affected by recall errors and social desirability, especially for sensitive SHC experiences. The cross-sectional design captures associations at one point in time and does not allow causal inference. Some students may have declined participation or under-reported experiences, leading to possible non-response and reporting bias. The sample includes students with disabilities in public universities only, so findings may not generalise to private institutions or students with disabilities outside higher education or in other countries.

Conclusion

The findings underscore the necessity of targeted, contextually informed interventions and robust support systems for students with disabilities, particularly those with sensory impairments. Addressing sexual harassment in higher education institutions must transcend financial considerations to include the diverse intersectional realities of students' lives, including disability type, gender, age, and academic stage, if prevention and support initiatives are to be effective. Tailoring interventions to the unique needs of these vulnerable groups, through both policy and practice, is critical to reducing their risk and

ensuring their protection. Strengthening family involvement and increasing campus-wide awareness and sensitivity to the unique vulnerabilities of students with disabilities are essential for fostering safer, more inclusive university environments. Ghana universities should prioritize accessible reporting systems, regular awareness campaigns, faculty and staff training around disability inclusion, and consultation with students themselves to ensure that policies are effectively implemented and responsive to the evolving campus context. Universities ought to prioritise a multi-level and inclusive approach to achieve equitable educational experiences for all learners. Longitudinal research may be useful to explore temporal risk patterns across academic levels and transition phases to inform the timing and content of interventions. Ghanaian public universities and policymakers should act on this evidence by embedding disability-sensitive SHC prevention and response mechanisms into institutional and national policies. They should dedicate resources to implement and monitor these measures. University leadership must prioritise the creation of campus environments in which students with disabilities can participate, learn, and thrive free from sexual harm.

Abbreviations

CEDRES	Centre for Disability and Rehabilitation Studies
KNUST	Kwame Nkrumah University of Science and Technology
NVSA	Non-Verbal Sexual Abuse
SC	Sexual Coercion
SD	Standard Deviation
SHC	Sexual Harassment and Coercion
SHCE	Sexual Harassment and Coercion Experience
UCC	University of Cape Coast
UDS	University for Development Studies
UEW	University of Education
UG	University of Ghana
VSA	Verbal Sexual Abuse

Supplementary Information

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Supplementary Material 1.

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Authors' contribution
EKA and FYG conceived the study and contributed to drafting the manuscript. GNYR and FQ contributed to data collection tool development, data collection and management and drafting of the manuscript. PA managed and analysed data whilst PAA contributed to drafting the manuscript. All authors reviewed drafts, made important intellectual contributions and approved the final version for submission.

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Data availability
The data used during the current study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
The study adhered to ethical guidelines for research involving human subjects. Ethical approval was obtained from the University of Cape Coast (ID: UCCIRB/EXT/2022/17), and the research was conducted in accordance with the ethical protocols of all participating universities. Participation was entirely voluntary, and data were collected only after obtaining informed consent from each respondent. Participants provided consent either by signing or thumbprinting the consent form, ensuring that those with different levels of literacy could fully understand and agree to participate.

Consent for publication
Not Applicable.

Competing interests
The authors declare no competing interests.

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