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How the Learning Environment Influences Bullying: The Case of Two Universities in Ghana

Emmanuel Mensah Kormla Tay[1] **& Stephen Zamore**[2]

[1]University of Agder, Norway
[2]Hauge School of Management, NLA Kristiansand, Norway

Abstract

In response to a growing concern about bullying and victimisation at universities, this study examined students' perceptions of the university learning environment (LE) concerning their experience of various negative behaviours and victimisation at the University of Ghana (Legon Campus) and the University of Cape Coast in Ghana. The study was a cross-sectional survey of 751 respondents. Confirmatory factor analysis (CFA) and regression analysis indicated how students' perceptions of the universities' LE related to students' bullying experiences. The results revealed an inverse relationship between students' perceptions of the LE and their experiences of negative behaviours and victimisation, implying that any improvement in the LE would reduce students' bullying experiences. It suggests that awareness of anti-bullying rules, which are strictly, fairly, and consistently enforced through participatory democratic principles, would be essential to ensure a positive psychosocial LE.

Keywords: *Learning environment; bullying, victimisation, higher education, Ghana.*

Introduction.

There is increasing research evidence (Chan et al., 2020; Gómez-Galán et al., 2021; Heffernan & Bosetti, 2021; Pörhölä et al., 2020) showing that bullying occurs as an aspect of interpersonal relationships at universities. Bullying occurs when an individual or several individuals persistently, over a period, perceive themselves to have experienced negative actions from one or several persons who are socially or physically stronger than them and find it challenging to defend themselves from this stronger perpetrator (Einarsen, 2005; Olweus, 1993). The core issues of bullying are an intent to harm or upset another person, repetition of the harmful behaviour over time, and an imbalance of power between the bully and the victims (Cowie &

Myers, 2016). However, it is worth noting that some single-time incidents can produce harsh and unfair treatments that have a longer-lasting effect on a victim (Olweus, 1993).

Research has shown that university bullying takes subtler negative behaviour forms, including ridicule, demeaning remarks, rumour spreading, stalking, unwanted sexual advances, and ostracism. These behaviours may be obvious or perpetrated anonymously online (Cowie & Myers, 2016). A perpetrator can bully by intimidating or openly embarrassing a student. Bullying can also be perpetrated by a professor unfairly accusing a student of shirking responsibilities or tasking a student with inappropriate, excessive, or meaningless assignments. Excessive control, refusal to acknowledge a job well done, relentless effort to dishearten a student, repeated reminders of past mistakes and failures, setting a student up to fail, and concealing information to harm a student's work performance are other examples of university bullying discussed in the extant literature (Leymann, 1996).

Bullying is not a randomised phenomenon. Individual or social risk factors like age, gender, race, ethnicity, sexual orientation, health status (e.g., depression, anxiety, obesity), learning or developmental disability, and economic status are factors that determine why people are bullied (Cowie & Myers, 2016; Hong & Espelage, 2012; Khiat, 2012). Thus, researchers (Glasø et al., 2007) believe that personality attributes are at the root of the incidence of bullying. The attributes could be a source of strength or weakness, making coping possible or making one susceptible to bullying. For example, Katz-Wise and Hyde (2012) confirm that people who are lesbian, gay, bisexual, transgender, or queer (LGBTQ) are bullied because of their sexual orientation, as are people with disabilities (Son et al., 2012).

On the other hand, Leymann (1996) rejects the view that personality attributes influence bullying, while Einarsen et al. (2003) think that a combination of factors, including the attributes of the victim, the perpetrator, and the organisation, account for bullying, arguing that a bully might have personality problems but acts when the organisational culture permits such behaviour. Similarly, Schott and Søndergaard (2014) argue that institutional and social relationships interact with personality factors to induce bullying. Institutional factors (i.e., policies, social support, resource provision, mission, and vision) determine a LE (Einarsen et al., 2011).

The United Nations International Children's Emergency Fund (UNICEF) emphasised the significance of the context of bullying (e.g., the LE) at the World Anti-Bullying Forum 2021 and proposed a new definition of bullying to account for the context in which bullying

occurs. Many researchers believe that bullying varies consistently with the characteristics of the LE or the school climate, depending on whether the LE is congenial or not (Acosta et al., 2019; Juvonen & Graham, 2014; Konishi et al., 2017; Powell et al., 2015; Roland & Galloway, 2002; Wang et al., 2013).

Recent research reports mixed results about the influence of the LE on bullying. Petrie (2014) finds a significant reduction in bullying when the LE turns increasingly positive, and that LE factors account for about 41% of the variance in bullying in classrooms, even though he does not emphasise causality. Aldridge et al. (2018) examine whether bullying is a mediator in the relationship between delinquent behaviours and LE variables in Australian high schools and finds that teacher support, school connectedness, and clear rules are essential to reducing bullying. Diversity affirmation, reporting, and help-seeking positively influence bullying and raise awareness of how to promote aspects of a LE in order to avoid counterproductive outcomes. Other studies (Hong et al., 2018; Konishi et al., 2017; Kyriakides et al., 2014; Muijs, 2017; Wang et al., 2013) report mixed results. Thus, empirical research on the effect of LE on bullying in higher education has yielded inconclusive results. The objective of the present study is to provide further empirical evidence that the LE has a significant impact on bullying.

The Learning Environment and Bullying

According to Zullig et al. (2010), a LE entails physical and social factors. The physical factors include air quality, ventilation, and moisture, and, in particular, and how these combines to affect formation. Social factors also determine the LE (Patton et al., 2006). Specifically, research has linked the LE to student achievements (Hoy & Hannum, 1997), relationships, engagement, and connectedness among students and with faculty (Libbey, 2004), belligerence, victimisation, and crime among students and faculty (Wilson, 2004), and alcoholism and drug use (Coker & Borders, 2001).

Cohen et al. (2009, p. 182) argue that LE refers to the attributes and conditions of school life. School life describes the "quality" of relationships and the entire teaching and learning context. This in turn are outcomes of norms, values, goals, relationships among the school population. It also describes participation in a shared vision. Zullig et al. (2010) review reveals five important constructs about the LE. These are order, safety and discipline; academic outcomes; social relationships; school facilities or the physical learning environment; and school connectedness. Their mention of school facilities points to Sinkkonen et al. (2014)

assertion that scarcity of resources creates tighter competition to acquire them, which may increase bullying.

Similarly, the LE is affected by the quality of relationships between students and lecturers (Kuperminc et al., 1997). In so doing, the quality of relationships between students and lecturers can contribute to bullying (Saarento et al., 2015). Braxton et al. (2011) study of incidents of harassment reported in the Chronicle of Higher Education reveals high levels of incivility by lecturers in and out of the classroom. Incivility refers to off-colour jokes, demeaning remarks, the humiliation of students in public, the use of profanity, and sexual harassment. When lecturers are uncivil, students may become uncivil as well. Zullig et al. (2010) contend that the existence of incivility in the LE offers support to the argument that the LE has to do with values, expectations, and norms that promote positive social and emotional development of students while simultaneously ensuring social and physical safety.

Students' perception that their LE frowns upon any uncivil behaviours is a source of support for students who experience or are at risk of experiencing bullying (La Salle, 2018). Students' perceptions of LE also determine their predisposition to aggression (Espelage & Swearer, 2003). Kuperminc et al. (1997) indicate that when students have a positive perception of their LE, their tendency to exhibit aggressive behaviours is reduced. Konishi et al. (2017) find that students who perceive that the LE is safe and that rules are fairly applied to everyone seldom engage in bullying.

A poor leadership style also induces bullying. Samnani (2021) argues that a laissez-faire leadership style might give rise to incivility because the leader may not act on reports of bullying. An autocratic leadership style is also capable of covering up acts of abuse perpetrated by employees against students, as such acts would lead to unwanted criticism of the leader. When the factors that define a LE are appropriate, a positive psychosocial climate with less bullying or victimisation exists (Khoury-Kassabri et al., 2004). By contrast, a hostile LE can be a source of aggressive behaviours. This result is supported by social disorganisation theory, to which we turn next.

The Social Disorganisation Theory

Social disorganisation exists when a community cannot attain common values to ensure adequate social control of its residents (Bursik & Robert, 1988). The nature of interdependence of social networks in a community indicates whether social disorganisation will arise. Interdependence consists both in friendship ties and participation in organisations at both

informal and formal levels and in joint supervision of and shared responsibility for local problems (Kornhauser, 1978; Shaw & McKay, 1942). Shaw and McKay (1942) identify a society's ability to supervise and control peer groups as crucial. Antisocial behaviour is primarily considered a group phenomenon (Shaw & McKay, 1942; Short & Strodtbeck, 1965). The understanding is that most antisocial behaviours develop due to a lack of supervision of spontaneous group activities (Bordua, 1961; Shaw & McKay, 1969). Shaw and McKay (1969) argue that a community with common values can better control group behaviours by providing solutions to group-related antisocial behaviours. Theoretically, the inability to control group-related antisocial behaviours makes a community susceptible to higher rates of such misbehaviours (Sampson & Groves, 1989). Thus, bullying (as a form of group-related antisocial behaviour) can be an outcome of social disorganisation in a school environment.

This Study

There is no single interpretation of LE and no research instrument from the extant literature for investigating it in different societies. Zullig et al. (2010, pp. 146-147) propose "positive student-teacher relationships", "school connectedness", "academic support", "order, safety, and discipline", "school physical environment", "school social environment", "academic outcomes", "perceived exclusion/privilege", and "academic satisfaction" as LE-related constructs. We did a preliminary survey and received some confirmation of the variables that constitute aspects of everyday life in the two universities that are the subject of this study. The survey revealed that the LE is determined by the universities' policies, social support, and resource provision. Based on these findings, we reformulated Zullig and his colleagues' constructs as "university general environment", "order, safety, and discipline," "student–lecturer relationships," "student–peer relationships," and "university physical environment". In an attempt to confirm the constructs in our data, we found that student–lecturer and student–peer relationships are interrelated. Therefore, we further reformulated the LE variables as *university general environment; order, safety, and discipline; relationships; and university physical environment.* We tried to determine how the universities' LEs related to students' bullying experiences by finding the relationship between students' perceptions of the universities' LEs and their experience of negative behaviours and victimisation. The main question is: what factors influence bullying in the study environments?

We chose the University of Ghana and the University of Cape Coast, which are among the top universities in Ghana, based on their perceived symbolism of the anti-bullying structures of most public and private universities in Ghana. Moreover, they were relevant for

the study of LE and bullying because they had become the focus of a British Broadcasting Corporation exposé on sexual harassment.

We sought to answer the following research questions:

RQ1: How is the "university general environment" related to students' experience of negative behaviours and victimisation?

RQ2: How is "order, safety, and discipline" related to students' experience of negative behaviours and victimisation?

RQ3: How are "relationships" associated with students' experience of negative behaviours and victimisation?

RQ4: How is the "university physical environment" related to students' experience of negative behaviours and victimisation?

RQ5: Which LE construct has the strongest correlation with students' experience of negative behaviours and victimisation?

Methodology

Sampling and the Sample

Final-year bachelor's students, second-year master's degree students (by October 2020), and PhD candidates were purposely selected based on the possibility of providing adequate information (Bryman, 2012). Teaching assistants in the universities' departments assisted the researcher in distributing paper questionnaires to the participants between January and March 2021. A total of 900 participants received the questionnaires, and 762 (i.e., 446 and 316 from the respective universities) responded. Of the 762 questionnaires, eleven (11) were incomplete and hence excluded, resulting in a final sample of 751 respondents. The demographic information of the respondents is presented in Table 1.

As can be seen in Table 1, most of the respondents were at least in their third year of study, were bachelor's students, and were between 18–27 years old. There was not much difference between the number of male and female respondents.

Table 1: Demographic information of respondents (Ghana)					
Variable	**N**	**%**	**Variable**	**N**	**%**
Gender			**Academic Level**		
Male	391	52.1	Bachelor	708	94.3
Female	360	47.9	Masters	25	3.3
Transgender	0	0	PhD	5	0.7
Others	0	0	Others	13	1.7
Total	**751**	**100**	**Total**	**751**	**100**
Age group			**Length of time at the University**		
18–22 yrs.	250	33.3	1 yr.	44	5.9
23–27 yrs.	406	54.1	2 yrs.	71	9.5
28–32 yrs.	76	10.1	3 yrs.	176	23.4
33–37 yrs.	12	1.6	4 yrs.	431	57.4
38–42 yrs.	2	0.3	5 yrs.	19	2.5
43–47 yrs.	4	0.5	6yr+	10	1.3
48 yrs+	1	0.1			
Total	**751**	**100**	**Total**	**751**	**100**

Instrument

The questionnaire investigated bullying and the LE. The bullying part was adapted from the Negative Acts Questionnaire (Einarsen et al., 2009) to meet the higher education context. Altogether, there were fourteen questions from the Negative Acts Questionnaire (Einarsen et al., 2009), eight questions from the Sexual Experience Questionnaire (Fitzgerald et al., 1988, p. 157), and six questions from the Cyberbullying Questionnaire (Akbulut & Eristi, 2011, p. 1161). Two additional questions were included based on the researcher's experience of the study environments. The items are grouped into four constructs: general bullying, sexual harassment, work-related bullying, and cyberbullying. There was a self-labeling component for the subjective declaration of bullying after presenting the definition of bullying. This is

because a person may experience negative behaviours but may not consider the experience as bullying or victimisation.

The second part of the questionnaire had twenty-nine questions about the LE. The sources of these questions are findings from previous studies (Aldridge & Ala'I, 2013; Cho et al., 2017; Furlong et al., 2005; Juvonen & Graham, 2014; Konishi et al., 2017; Thornberg et al., 2018; Zullig et al., 2010) and personal observations of the researcher about the study environments. In general, all the questions investigated students' perceptions of the study environments using a 5-point Likert scale, where 1 = strongly disagree and 5 = strongly agree.

We tried to ensure the constructs' internal consistency and reliability by using the popular objective reliability measure of Cronbach's alpha across the cohort of study participants (see Tavakol & Dennick, 2011). Calculating Cronbach's alpha was necessary because we selected questions that reflect the unique group dynamics of the current study environment. We tried to ensure that the items reflect their definitional content (i.e., ensuring the face validity) and that they did this collectively (Hulin et al., 2001), based on personal judgement (see Hair et al., 2019). Details of this procedure are provided below.

Econometric Analysis

The empirical analysis starts with construct measurements using confirmatory factor analysis (CFA). After measuring the constructs, the analysis proceeds with a multivariate regression using the following equation.

$$Bullying = \alpha + \beta_1 Environment + \beta_2 Age + \beta_3 Gender + \beta_4 Marital\ status + \beta_5 Academic\ level + \varepsilon, \quad (1)$$

where *Bullying* denotes different bullying behaviours (i.e., general/person-related bullying, sexual harassment, work-related bullying, cyberbullying, and victimisation), *Environment* denotes different aspects of the university environment (i.e., university general environment, order and discipline, relationships, and the university physical environment), *Age* denotes age of the respondents in years, *Gender* denotes the gender of the respondents (1 = men, 0 = women), *Marital status* denotes single, separated/divorced, or married, *Academic level* denotes bachelor, master, PhD, and other, α is the constant term, B1–B5 are the coefficients to be estimated, and ε is the error term.

Results

Measurement Items, Construct Validity and Reliability.

Table 3 below shows Cronbach's alpha, the ranges of factor loadings for each construct, and tests of goodness-of-fit. The Cronbach's alpha values (ranging from 0.68 to 0.90) are above the 0.60 thresholds proposed by Hair et al. (2006). The focus was also to ensure that the individual items that constitute the constructs were good. A test for the unidimensional property of the items through CFA gives the values reported in Table 2.

Table 2: Constructs/Measurement items	**Factor Loading**	**t-value**
BULLYING CONSTRUCTS		
General Bullying		
There is a spreading of gossip and rumours about you	0.50	Fixed
Practical jokes directed at you by people you do not get along with	0.64	10.58
You are called names, made fun of, or taunted	0.67	10.80
Someone stares at you in a way that makes you feel intimidated	0.62	10.32
You have been harassed or negatively treated because you were a new student.	0.62	10.30
You have been hit, kicked, shoved, pushed roughly, or tripped up	0.67	10.74
You are having insults or offensive remarks about your person (i.e., habits and background), your attitudes or your private life	0.68	10.89
You have had your property destroyed or taken forcefully	0.66	10.63
Nasty, spiteful, mean, and malicious rumours disseminate about your sexual orientation	0.65	10.61
Being shouted at or being the target of spontaneous anger (or rage)	0.70	11.06
Being ignored or excluded (being 'sent to Coventry')	0.69	10.85
Being ignored or facing a hostile reaction when you approach	0.70	11.05
Sexual Harassment		
Someone tells suggestive stories, makes sexist and offensive jokes, or displays offensive materials about you	0.65	13.69
You are being maltreated, ignored, or put down in a condescending or demeaning manner because of your sex	0.69	15.13
Your body (breast, thigh, neck, waist, arm, sexual organ) is touched or kissed without your approval	0.78	14.92
You are harassed repeatedly for drink dates etc., despite you saying no	0.78	13.09
Someone makes sexual advances, looks, gestures, jokes, or remarks towards you, which are sexually inciting and discomforting.	0.66	14.99
You are promised favour rewards or spared some form of punishment or exposure if you oblige to a sexual relationship	0.78	14.80

You are threatened with some sort of retaliation or bad treatment if you do not sexually cooperate	0.77	13.96
Someone repeatedly tries to remove part of your clothes without your consent or tries to sexually abuse you (i.e., raped or nearly raped).	0.72	13.69
Work-related Bullying		
Someone withholding information that affects your performance	0.65	12.33
Repeatedly reminded of your blunders, errors, or mistakes	0.83	12.14
A persistent criticism of your work and your efforts	0.82	12.10
You are denied the right to claim what you are entitled to (e.g., grade)	0.81	12.33
Digital/Cyberbullying		
Unwanted, derogatory, or threatening comments that you do not want to share is circulated about you online	0.72	17.11
Embarrassing and offensive pictures or videos of you have been spread online or sent to others without your consent	0.80	15.44
You are excluded from digital communication or social networks.	0.75	16.24
You receive unpleasant digital messages or emails.	0.79	16.22
Unpleasant instant messages about you on social network sites and in chat rooms	0.80	16.01
Your credentials or identity information is appropriated	0.78	17.11
UNIVERSITY ENVIRONMENT CONSTRUCTS		
General University Environment		
The impression is that the university is an environment for adults; there is no interference in acts of bullying.	0.55	**Fixed**
There is too much indifference among students and lecturers when bullying occurs.	0.60	11.36
There is a system or process to report bullying, breach of law, ethics violations, health-related issues or other circumstances that may harm individuals or the organisation to the authorities.	0.64	11.84
Authorities act on reports of bullying or risk of danger.	0.65	11.95
One can quickly get anyone of (a) alcohol, (b) marijuana, (c) crack, (d) cocaine, (g) LSD, (h) PCP, and (i) heroin on campus.	0.55	10.51
Crowdedness and limited resources make bullying possible.	0.58	10.99
Class sizes have always been enormous, providing a good ground for bullying.	0.58	10.97
Lecturers and university staff are competent in handling bullying-related issues.	0.62	11.54
People harass others because of the clothes that they wear.	0.59	11.16
There are rules of the university that prevent bullying.	0.67	12.20
Bullying cannot be carried out at will.	0.62	11.60
Lecturers make it clear the work one needs to get good grades.	0.64	11.84
There are known provisions for the redress of unfair exam assessment.	0.65	11.97

Lecturers and administrators are equally held accountable for any misconduct.	0.70	12.45
Students' reporting of authority's misconduct is usually handled professionally without repercussions for the students.	0.69	12.37
It does not matter if the entire university community does not know the punitive measures in cases of bullying.	0.61	11.43
The academic workload is not demanding; there is room for excessive leisure and unwanted behaviour.	0.55	10.64
There are counselling staff on campus to help students with academic, social, or emotional needs of any kind.	0.57	10.94
Formal Guardianship, Order, Safety, and Discipline		
You know and understand anti-bullying rules.	0.75	16.73
University rules are fair, consistent, and strictly enforced.	0.85	15.98
Students receive punishment if they do not follow university rules.	0.84	14.97
Students and staff solve the problems in this university.	0.79	16.73
Relationships (Student–Lecturer and Student-Peer relationships)		
Lecturers care about the students; they are available and listen to problems.	0.73	Fixed
Some lecturers make demeaning remarks, humiliate students in public, and use absolute profane language in the classroom.	0.68	9.12
There is mutual respect and decency among students.	0.72	11.14
Rival gangs exist on campus that are sources of bullying.	0.72	9.56
University Physical Environment		
The physical structure and facilities' design increase openness and prevent hideouts for negative behaviours (e.g., glass in office doors).	0.81	Fixed
There is an adequate supply of resources on campus (e.g., water).	0.86	15.56
Lighting in hallways and on campus, in general, is adequate to prevent crime.	0.84	15.70

Almost all the items load above 0.50 except one, which is 0.50. Invariably, this fulfils the convergent validity of our items (Hair et al., 2019, p. 663). The comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the Tucker–Lewis index (TLI) were used to verify that the assumed theoretical structure is a reflection of reality as demonstrated by the data (Hair et al., 2019). These are assumed to be the most stable model fits (Hu & Bentler, 1999). Browne and Cudeck (1992) suggest that an RMSEA constitutes a good fit if the value is less than 0.05. Values that range from 0.05 to 0.08 are acceptable, values that range from 0.08 to 0.10 indicate a marginal fit, and values greater than 0.10 are a poor fit. Hair et al. (2019) contend that the best cutoff values for CFI and TLI are 0.90 and above and

0.95 and above, respectively. The p-values represent the extent to which a latent factor explains the variance of a measured variable, and the value is strongest at $p < 0.01$.

Regarding the constructs, *general bullying* has good alpha and factor loadings and an excellent *p*-value (i.e., p = 0.000). The RMSEA can be considered acceptable, and the CFI and TLI are approximately 0.90. *Sexual harassment* has good alpha and factor loadings, an excellent *p*-value, and somewhat mediocre RMSEA, but acceptable CFI and TLI. *Work-related bullying* has good alpha and factor loadings, a poor *p*-value, excellent RMSEA, and excellent CFI and TLI. *Cyberbullying* has good alpha and factor loadings, an excellent *p*-value, poor RMSEA, but excellent CFI and TLI. *University general environment* has good alpha and factor loadings, an excellent *p*-value, poor RMSEA, and slightly deficient CFI and TLI. *Order and discipline* has good alpha and factor loadings, an acceptable *p*-value, acceptable RMSEA, and excellent CFI and TLI. *Relationships* has acceptable alpha and factor loadings, an excellent *p*-value, slightly deficient RMSEA, excellent CFI, and acceptable TLI. Lastly, the *university physical environment* has good alpha and factor loadings and excellent RMSEA, CFI, and TLI.

Table 3: Reliability and validity of constructs

Construct	Alpha	Factor loadings	Chi-squared (d.f)	p-value	RMSEA	CFI	TLI
General bullying	0.88	0.50-0.70	362.26 (54)	0.000	0.088	0.895	0.872
Sexual harassment	0.87	0.65-0.78	197.32 (20)	0.000	0.109	0.927	0.898
Work-related bullying	0.78	0.65-0.83	0.983 (2)	0.612	0.000	1.000	1.004
Cyberbullying	0.86	0.72-0.80	119.80 (9)	0.000	0.130	0.940	0.900
University general environment	0.90	0.55-0.70	1069.36 (135)	0.000	0.098	0.804	0.778
Order and discipline	0.82	0.75-0.85	7.15(2)	0.028	0.059	0.995	0.985
Relationships	0.68	0.68-0.72	18.95(2)	0.000	0.107	0.961	0.882
University physical environment	0.79	0.81-0.84	0.000	.	0.000	1.000	1.000

Notes: This table lists the results for goodness-of-fit, Cronbach's alpha and factor loadings range, CFI (comparative fit index), TLI (Tucker–Lewis index), and RMSEA (root mean square error of approximation index).

It is noteworthy that Hair et al. (2019, pp. 642, 647) contend that, even though the cutoff points may exhibit a good model fit, their applicability is not absolute in all cases. The model in this research might not have met all the requirements for some constructs; nonetheless, our interest was to find some directional relationship between the LE and the various negative social

behaviours and respondents' subjective confirmation of victimisation. This relationship between the LE and bullying is presented in Tables 4 and 5.

Table 4 shows the correlations between our independent and dependent variables. These correlations indicate how the LE variables relate to bullying. The bold values in the table indicate the correlation strength at the 10% significance level or lower. Multicollinearity is insignificant, as all the values are lower than the 0.70 cutoff point proposed by Kennedy (2008). A strong negative correlation exists between the LE and the various negative behaviour and victimisation.

Table 4: Correlation matrix

	General	Sexual	Work	Cyber	Victim	Gen env't	Order & Disc.	R'ships	Physical env't	Age	Gender	Single	Separated	Bachelor	Master	PhD.
General bullying	1.0000															
Sexual harassment	**0.7361**	1.0000														
Work-related bullying	**0.6923**	**0.6267**	1.0000													
Cyberbullying	**0.6723**	**0.6857**	**0.6645**	1.0000												
Victimisation	**0.3768**	**0.3336**	**0.3129**	**0.2971**	1.0000											
University general environment	**-0.1987**	**-0.1486**	**-0.1672**	**-0.1738**	**-0.1802**	1.0000										
Order & discipline	**-0.2310**	**-0.1862**	**-0.1751**	**-0.2253**	**-0.2134**	**0.6394**	1.0000									
Relationships	**-0.1822**	**-0.1067**	**-0.1279**	**-0.1648**	**-0.1453**	**0.6364**	**0.5927**	1.0000								
Physical environment	**-0.2269**	**-0.1434**	**-0.1575**	**-0.1641**	**-0.1587**	**0.5621**	**0.5353**	**0.5836**	1.0000							
Age	-0.0106	-0.0335	-0.0145	-0.0228	0.0493	0.0423	**0.0710**	0.0271	**0.0635**	1.0000						
Gender	**-0.0765**	0.0481	**-0.0807**	-0.0391	-0.0106	**0.1236**	0.0539	**0.1260**	**0.1158**	**-0.1941**	1.0000					
Single	-0.0033	0.0124	0.0109	0.0224	0.0241	-0.0190	-0.0426	0.0151	-0.0563	**-0.3374**	0.0161	1.0000				
Separated	-0.0308	**0.0891**	-0.0258	-0.0220	0.0455	-0.0167	0.0397	0.0142	0.0221	0.0076	0.0381	**-0.1382**	1.0000			
Bachelor	**-0.1449**	**-0.1457**	**-0.1746**	**-0.1389**	**-0.1076**	**0.0932**	**0.0739**	**0.1372**	**0.0825**	**-0.1613**	0.0070	**0.1438**	0.0090	1.0000		
Master	**0.1426**	**0.1140**	**0.1744**	**0.1267**	**0.1097**	**-0.0893**	-0.0457	-0.1103	-0.0700	0.0862	0.0448	-0.0712	-0.0068	-0.7530	1.0000	
PhD.	-0.0526	-0.0475	-0.0345	-0.0406	-0.0321	0.0116	-0.0063	-0.0011	0.0094	**0.1216**	-0.0458	**-0.1110**	-0.0030	**-0.3322**	-0.0152	1.0000

Notes: The bold values in the table indicate the correlation strength at the 10% significance level or lower (i.e., 5% and 1%). Most correlations are significant at either the 5% or 1% level.

However, a correlation matrix is bivariate and, as such, does not give the best estimate of bullying based on the LE. Therefore, we ran a multivariate regression. The result shows that the universities' general environment is inversely related to all the negative social behaviour constructs and victimisation at the 99% confidence level. Order and discipline are also inversely

related to negative behaviour constructs and victimisation. Victimisation has the most significant coefficient values for LE, with a 99% confidence level. Relationships are inversely related to all the negative behaviour and victimisation constructs, with the correlation being strongest for general negative behaviours, cyberbullying, and victimisation at the 99% confidence level, followed by sexual harassment and work-related negative behaviours at the 95% confidence level. The universities' physical environment is also inversely related to all the negative behaviour and victimisation constructs at the 99% confidence level, and is thus the third strongest correlation.

Table 5: The correlation between bullying and the university environment	*General Bullying*	*Sexual harassment*	*Work-related bullying*	*Cyberbullying*	*Victimisation*
Panel A: University general env.					
University general environment	-0.1774***	-0.1354***	-0.1420***	-0.1539***	-0.3731***
	(0.0373)	(0.0370)	(0.0368)	(0.0371)	(0.0814)
Age	-0.0265	-0.0243	-0.0432	-0.0206	0.2338**
	(0.0510)	(0.0510)	(0.0505)	(0.0526)	(0.1115)
Gender	-0.1109	0.1097	-0.1367*	-0.0366	0.0994
	(0.0753)	(0.0752)	(0.0744)	(0.0758)	(0.1623)
Single	0.0096	0.1316	-0.0056	0.1315	0.4978
	(0.1658)	(0.1645)	(0.1638)	(0.1664)	(0.3733)
Separated/Divorce	-0.8119	2.4803**	-0.6504	-0.4777	-
	(0.9865)	(0.9887)	(0.9755)	(0.9882)	-
Bachelor	-0.6703**	-1.0336***	-0.6976**	-0.7408***	-0.8375
	(0.2753)	(0.2759)	(0.2722)	(0.2759)	(0.5899)
Master	-0.0213	-0.3992	0.0718	-0.1253	0.1292
	(0.3448)	(0.3456)	(0.3477)	(0.3454)	(0.7522)
PhD	-1.2455**	-1.4513***	-1.0444**	-1.1106**	-1.8185
	(0.5135)	(0.5148)	(0.5077)	(0.5144)	(1.2796)
Constant	0.8401**	0.7542**	0.9429***	0.6690*	-0.7126
	(0.3621)	(0.3621)	(0.3577)	(0.3647)	(0.7760)
Observations	715	721	716	708	723
R-squared/ Pseudo R2	0.064	0.064	0.057	0.052	0.037
Panel B: Order and discipline					

Order & discipline	-0.2164***	-0.1776***	-0.1580***	-0.2082***	-0.4530***
	(0.0365)	(0.0360)	(0.0361)	(0.0360)	(0.0804)
Controls included?	YES	YES	YES	YES	YES
Observations	729	737	733	725	740
R-squared/ Pseudo R2	0.085	0.077	0.073	0.076	0.048
Panel C: Relationships					
Relationships	-0.1521***	-0.0886**	-0.0933**	-0.1368***	-0.2875***
	(0.0373)	(0.0369)	(0.0372)	(0.0370)	(0.0787)
Controls included?	YES	YES	YES	YES	YES
Observations	730	738	734	726	741
R-squared/ Pseudo R2	0.062	0.054	0.055	0.053	0.027
Panel D: University physical env.					
University physical environment	-0.2076***	-0.1328***	-0.1323***	-0.1425***	-0.3245***
	(0.0370)	(0.0365)	(0.0367)	(0.0368)	(0.0785)
Controls included?	YES	YES	YES	YES	YES
Observations	731	739	735	727	742
R-squared/ Pseudo R2	0.080	0.063	0.064	0.055	0.031

Notes: This table presents OLS (columns 2–5) and logistic (column 6) regressions on the relationship between the LE and bullying. Victimisation takes the value of 1 if the respondent experienced victimisation and 0 otherwise. Standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Discussion and Implications for Practice

This study explored the relationship between students' perception of the LE and their experiences of negative behaviours and victimisation in two universities in Ghana. Searches for similar research revealed that this study might be the first of its kind. It is beyond the scope of this study to determine what personality factors make people bullies or victims. Instead, our focus was to determine respondents' perception of the universities' LEs and their connection with experiences of various negative behaviours and victimisation. While we do not claim to demonstrate causality, the results show that improving the LE would reduce bullying, even though the correlation between these dependent and independent variables was generally not strong. In what follows, we elaborate on this correlation through the prism of the five research questions.

RQ1: Correlation between university general environment and bullying

The universities' general environment is inversely related to bullying at the 99% confidence level. The universities' general environments need improvement to minimise bullying. There is a need for the universities to provide counselling and mental health support systems as well as raise awareness among students of the availability of such services (Cho et al., 2017; Sinkkonen et al., 2014). In addition to the provision of adequate counselling and mental health resources (Sinkkonen et al., 2014), universities need to maintain a drug-free campus (Cho et al., 2017), and implement a system for reporting bullying in order to ensure that students do not suffer the trauma of dealing with problems they cannot report (Cowie & Myers, 2016). Raising awareness among students of punishments for violations of anti-bullying rules may also be necessary to deter potential perpetrators (Bandura & Walters, 1971; Nikolaou, 2017). Universities can conceal the identity of the perpetrators and the victims because trust and confidentiality drive the decision to report instances of bullying in most cases (Wójcik & Rzeńca, 2021). Universities must be responsive to people's attitudes toward bullying (Cowie & Myers, 2016). Lecturers and university staff must be well trained to handle issues of harassment (Luca, 2016). As can be seen from the extant literature, when the above concerns are not addressed at a university, the students suffer.

Correlation between order, safety, and discipline and bullying (RQ2 & RQ5)

Universities ensure order, safety, and discipline in four ways. These are (1) knowledge and understanding of anti-bullying rules, (2) how reasonably, consistently, and strictly anti-bullying rules are enforced, (3) punishment of perpetrators, and (4) participation of students in university decision-making and problem-solving. These anti-bullying provisions are inversely related to bullying, and the correlation is significant. The importance of safety, order, and discipline as a means of reducing bullying is consistent with the findings of Konishi et al. (2017). The implication is that any improvement in these anti-bullying provisions will significantly reduce bullying (Johnson, 2009). As Nikolaou (2017) argues, when people are aware of anti-bullying rules, punishment of perpetrators is fair and consistent (Konishi et al., 2017; Kupchik & Farina, 2016), a significant reduction in bullying occurs.

On the other hand, Cho et al. (2017) argue that exclusive reliance on awareness and enforcement of rules is insufficient. Other researchers argue that punishments are counterproductive (e.g., Borgwald & Theixos, 2013). Nevertheless, Arum (2003) argues that a progressive society cannot exist without rules and regulations and fair and consistent

punishment of wrongdoers. Universities are no exception: there need to be rules and regulations to ensure the safety, order, and discipline of the university community. In the face of the contradictory evidence discussed above, Kupchik and Farina (2016) argue that punishments must not be harsh, but rather fair and consistent. Explicit anti-bullying rules are needed to protect students against all forms of harassment and enjoin the university students and staff to create a safe LE (Cowie & Myers, 2016).

Correlation between relationships and bullying (RQ3)

There is always a possibility of friction among interdependent humans (Ledlow, 2008). From the results, positive relationships (as measured by the caring attitude of lecturers toward students, the absence of vulgar language, and the existence of mutual respect among students and between rival gangs) are inversely related to bullying. The correlation between relationship and general bullying, cyberbullying and victimisation is significant at a 99% confidence level but at a 95% confidence level for sexual harassment and work-related forms of harassment. It is meaningful when behaviours like the spread of gossip and the many others for general bullying are possible among students. These results are consistent with those of Aldridge et al. (2018).

In particular, their results point to the importance of a caring attitude of lecturers toward students and their support in confronting bullying behaviours (Flaspohler et al., 2009). Furthermore, when students are involved in decision-making on issues that concern them on campus, they develop confidence and become more responsible for ensuring compliance, which can ensure a positive psychosocial environment (Cowie & Dawn, 2008). On the other hand, bullying exists when off-colour jokes are told about students (Braxton et al., 2011). White and Mason (2012) note that rival gang groups on campus can give rise to various uncivil behaviours. As noted in the extant literature (also Keashly, 2012), the relationship between students and lecturers significantly affects the physical and mental health of students as well as their academic achievements. These positive outcomes are primarily due to relief from the stress and harm that bullying and other forms of aggression create (see Einarsen et al., 2011). Adverse outcomes arising from bad interpersonal relationships may go beyond the university community to encompass the families of the victims, leading to a cycle of harm to society. Fortunately, universities can work to limit the harm to others.

Correlation between university physical environment and bullying (RQ4)

Our study used items that investigate the physical environment in terms of the design of facilities in a way that increases transparency and prevents concealment of negative behaviours (e.g., glass in office doors), adequacy of resources (e.g., a sufficient number of tables and chairs in lecture rooms), and lighting in hallways and on campus. Johnson (2009) notes that the spatial layout of university facilities can influence people's interactions by limiting secrecy. Relatedly, the physical condition of the university, i.e., whether facilities are renovated or dilapidated, influences the students' perceptions of the university's social expectations regarding responsible behaviours. Baillien et al. (2008) find that conditions like crowded spaces and high temperatures are unpleasant and irritating and can be indicators of bullying behaviours. Sinkkonen et al. (2014) identify limited resources as a source of friction that can lead to bullying when the competition to acquire them gets keen.

These results indicate that students think improving the physical environment decreases bullying. They are consistent with those of Salin (2015), who investigates bullying using similar LE items. Moreover, a review (Manca et al., 2020) reports similar results. However, it has been a challenge to find further research on higher education that supports our results.

Conclusion

Our findings show that a favourable learning environment can reduce students' perceptions of bullying on the university campus. We showed what components of the learning environment could result in a positive psychosocial learning environment in most universities. Our study contribution is unique not only because research on learning environments in higher education is limited, but also because learning environments are not the same in any two universities.

Our findings identify a need to ensure safety, order, and discipline through formulating anti-bullying rules that are fairly and consistently enforced. Enforcement of these rules must be non-discriminatory in order to wield a higher potential for ensuring compliance with them.

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