



## Classroom Size as a Predictor of Bullying Behaviour among Secondary School Adolescents in Nigeria

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### Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final

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### ABSTRACT

**Aim:** This study was carried out to investigate the patterns of bullying behaviour among Nigerian secondary school adolescents and to ascertain the link between classroom size and bullying in selected Senior Secondary Schools in Ogun State, Southwestern Nigeria.

**Study Design:** Cross-sectional survey design.

**Place of Study:** Redeemer's University Osun State, South Western Nigeria.

**Methodology:** Multistage sampling technique was adopted in this study. Random sampling technique was used to select Obafemi / Owode Local Government Area (LGA) from Ogun central senatorial district, four Senior Secondary Schools (SSS) from the LGA and 397 students. Participants responded to School Congestion Questionnaire (SCQ) and Adolescent Peer Relation Instrument: Bully/Target (APRI-BT). Descriptive and inferential statistics were used in data analysis

**Results:** Observed prevalence rates included verbal bullying (42.5%), social bullying (42.3%), physical bullying (37.9%) and overall bullying behaviour (44.8%). Class Size (CS) independently and significantly predicted the severities of verbal bullying ( $R^2 = .029$ ,  $p = .001$ ); social bullying ( $R^2 = .055$ ,  $p = .000$ ); physical bullying ( $R^2 = .042$ ,  $p = .000$ ) and overall bullying behaviour ( $R^2 = .042$ ,  $p = .000$ ) among the sample.

**Conclusion:** There is a high prevalence of bullying behaviour among Nigerian secondary school

adolescents. Classroom size is a significant predictor of the individual factors of bullying behaviour (verbal bullying, social bullying, and physical bullying) as well as the composite of bullying behaviour among Senior Secondary School students in Nigeria.

*Keywords: Classroom size; bullying behavior; school adolescents.*

## 1. INTRODUCTION

Bullying at school is a phenomenon that has over the years gained global concern. The prevalence rates however vary across countries [1,2]. Bullying has been defined as aggressive behaviour, repeated over time, which results in harm to another person, who is usually powerless to defend themselves [3]. Bullying comprises verbal attacks such as name calling, threats), physical behaviours (e.g. hitting, kicking, damaging victim's property), and relational/social aggression (e.g. social exclusion, rumor spreading) [4,5,6] up to the most recent forms of attacks through Internet and new technologies also referred to as cyber bullying.

According to Olweus [7] a person is bullied when he or she is exposed, repeatedly and over time, to negative actions carried out by one or more other persons. Stassen [8]; Wolke and Lereya, [9] operationalized bullying in three elements: repetition, harm, and unequal power. Some authors examined the forms of bullying. Stassen [8] differentiates between physical, behavioural, verbal, and relational bullying. Physical bullying involves hitting, kicking, and other types of physical actions. Behavioural bullying implies that something mean is done on purpose, but without direct physical harm (e.g., stealing from someone, holding one's nose when someone approaches). Verbal bullying concerns, for instance, repeated derogatory remarks or name calling. Social bullying involves deliberately ignoring someone or moving away when the person approaches. Apart from the traditional form, a more recent form is cyber bullying, which includes, spreading rumors about a person via the internet or cell phones [10,11,12,8]. Craig, Harel-Fisch, Fogel-Grinvald, Dostaler, Hetland, and Simons-Morton [13] and Stassen [8] distinguished between direct and indirect bullying. Direct bullying is explained as expressions of physical aggression such as hitting and kicking, but also verbal aggression such as teasing, insults, and threats. Indirect bullying includes manipulations of social relationships that hurt or exclude other individuals, for instance, gossiping, spreading rumors, ignoring others intentionally, and

influencing others to tease or to physically hurt someone. It should be emphasized that there is no dyadic relationship between bullies, on the one hand, and victims, on the other [7]. Students' become involved in bullying situations as bullies, victims, bully victims, or bystanders [14]. Some observers encourage and reinforce bullies, whereas others defend the victims [15].

Whitney & Smith [16]; Owens, Shute, and Slee [17] identified insults, name-calling and nicknames, hitting, direct aggression, theft, threats, and social exclusion or isolation as the most common and frequent forms of bullying. To Crick & Grotpeter [18] hitting, direct and indirect aggression in the form of verbal abuse, gestures threats, and destruction of property are considered as major forms of bullying. Moreover, Berger [19] added verbal abuse, sexual harassment, and dating violence are the form of bullying, which include bullying behaviour in the form of relational and physical bullying [20,21].

The effects of students' involvement peer bullying are wide-ranging, with negative consequences on their physical, psychological and social well-being [22,23]. There are also evidences for the long-term effect of these negative effects of bullying [24,25]. In the same line of finding, Stassen [8], affirm that bullying has negative effects on the well-being of both victims and perpetrators, in both the short and the long term. Exposure to bullying behaviour whether as a bully, victim, or by stander has been linked to adverse mental health outcomes both in cross-sectional [26] and in longitudinal studies [27,9]. In addition to bullying often having adverse implications for the psychological, social and physical development of the students involved, those merely witnessing the incidents can be negatively affected by it [28]. Bullying is harmful not only to those who are directly involved (victims or perpetrators) but also to other members in the peer group, and can worsen subjective health for the class as a whole [29,30].

Classrooms vary considerably in rates of bullying and victimization [31,32]. Some studies have investigated demographic and structural characteristics of classrooms and schools, such

as grade level and number of students, classroom size and so on and how these may contribute to school bullying behaviour. Implications of the characteristics of the peer contexts shared by students, such as status hierarchy, norms, bystander behaviours and climate quality, role of teachers has also been studied especially in developed nations.

### 1.1 Theoretical Perspectives of Bullying

Some researchers find bullying as Group Process in which all group members are assigned different roles [33]. They affirm that school students being members of social group occupy different roles to foster feelings of belongingness and to establish themselves in social hierarchy and to reinforce the occurring of bullying. Some of the identified roles are: Ringleader Bully, Assistant, Rein forcer, Defender, Victim and outsider-bystander. Ringleaders initiate the aggression against the target, assistants are followers who help the bully and engage in aggression against friends, rein forcers are those group members who provide attention to then bully and provide feedback about the bully's destructive behaviour [33].

Murkowski et al. [34] viewed bullying from a group dynamics perspective i.e. integrity, homogeneity, and other evolutionary changes are viewed in group as goals in group dynamic perspective. The attainment of these goals is given utmost value by all members of a group. Children who are seen as hindrance or unable to achieve these goals are victimized and excluded from the specific group by other members of that particular group. Such children as a result become anxious and socially isolated because of their inability to accept ecological changes and adaptability to meet the desired requirements to stay along the group. Thus such children are victimized and rejected because these threaten consciously or unconsciously, group integrity, and other ecological changes through different ways.

Some studies have failed to find an association between school size and bullying problems [35,5, 36,16,37]. Klein and Cornell [38] showed that teacher- and peer-perceived bullying was higher in larger high schools, whereas school size was not associated with students' self-reports of victimization. The link between classroom size and students bullying behaviour has returned differing reports. While some researchers found no association between class size and bullying behaviour [5,16,39], other studies reported that

victimization was more prevalent in larger classrooms [35]. Few researches have been done in low- and middle income countries on bullying behavior [40]. This present study aims to determine the patterns of bullying behaviour among Nigerian secondary school adolescents and ascertain the link between classroom size and bullying in selected senior secondary schools in Ogun state, Southwestern Nigeria.

### 1.2 Research Questions

What is the pattern of bullying behaviour among Nigerian secondary school adolescents?

To what extent does classroom size predict the severity of verbal bullying among the participants?

To what degree does classroom size predict the severity of social bullying among the participants?

To what extent does classroom size predict the severity of physical bullying among the participants?

To what degree does classroom size predict the severity of bullying behavior among the Nigerian secondary school adolescents?

## 2. MATERIALS AND METHODS

### 2.1 Participants

A cross sectional survey design was employed in the study. The population comprised of male and female Senior Secondary School (SSS) students in Ogun State, Southwestern Nigeria. Multistage sampling technique was adopted in this study. Random sampling technique was used to select Obafemi / Owode Local Government Area (LGA) from Ogun central senatorial district and four Senior Secondary Schools (SSS) from the LGA. Finally 100 respondents were randomly selected from each of the four schools. Of the returned instruments 397 were found well completed and used for the study.

### 2.2 Measures

Two instruments were used for data collection. This includes one structured questionnaire titled School Congestion Questionnaire (SCQ).

Adolescent Peer Relation Instrument: Bully/Target (APRI-BT) was developed by Parada [41]. It's a 36-item measure with 6 subscales assessing the frequency of physical, verbal, and social bullying as both the perpetrator

and victim. For this present study only the items containing victims scale was used. Its original psychometric properties reveal the following Chronbach's alpha: Total bully score = 0.93, Total victim score = 0.95, Subscale scores = 0.83 to 0.92. In a pilot study the obtained Chronbach's alpha using a Nigerian sample is 0.75 which makes the psychometric properties acceptable for a Nigerian sample. The instrument is written in English language hence there was no need for translation to a Nigerian language since the respondents could read and understand the English language.

### 2.3 Data Analysis

Collected data was analyzed using the Statistical Package of Social Sciences (SPSS pack 23). To measure, organize, summarize and describe the descriptive statistic (patterns of bullying behaviour and demographic characteristic of the participants), frequency count and percentages were calculated. To test the hypotheses, linear regression analysis was employed to determine the degree to which the independent variable predicted the dependent variables among the participants.

### 2.4 Demographic Characteristics of Participants

Table 1 presents the summary of the participant's socio-demographic data. Distribution by school shows that CHSO were 100 (25.2%), CHSA 98 (24.7%), OHS 100 (25.2%) and OGS 99 (24.9%). On the level of study SSS1 were 77 participants (19.4%), SSS2 were 117 (29.5%) while SSS3 were 198 (49.9%).

## 3. RESULTS

The patterns of bullying behaviour as summarized in Table 2 show that there is a high prevalence of the factors used to measure bullying behaviour among the participants. An overall prevalence of bullying behaviour 44.8% was reported. Among the factors, the highest was verbal bullying (42.5%), next was social bullying (42.3%) and the lowest was physical bullying with 37.9% prevalence.

A linear regression analysis was carried out to determine the degree to which classroom size independently and significantly predicted severity of verbal bullying among the participants. Result indicated that CS independently and significantly predicted the severity of verbal bullying among the sample, ( $R^2 = .029$ ,  $p = .001$ ). The analysis

summarized in Table 3 suggests that 2.9% variance severity of verbal bullying is explained by class size of the students.

A linear regression analysis was carried out to determine the degree to which Classroom Size (CS) independently and significantly predicted severity of social bullying among the participants. Result indicated that CS independently and significantly predicted the severity of social bullying among the sample, ( $R^2 = .055$ ,  $p = .000$ ). The analysis summarized in Table 4 suggests that 5.5% variance severity of social bullying is explained by classroom size of the students.

A linear regression analysis was carried out to determine the degree to which classroom size independently and significantly predicted severity of physical bullying among the participants. Result indicated that CS independently and significantly predicted the severity of physical bullying among the sample, ( $R^2 = .042$ ,  $p = .000$ ). The analysis summarized in Table 5 suggests that 4.2% variance severity of physical bullying is explained by classroom size of the students.

A linear regression analysis was carried out to define the extent to which classroom size independently and significantly predicted severity of bullying behaviour among the participants. Result indicated that CS independently and significantly predicted the severity of bullying behaviour among the sample, ( $R^2 = .042$ ,  $p = .000$ ). The analysis summarized in Table 6 suggests that 4.2% variance severity of bullying behaviour is explained by classroom size of the students.

## 4. DISCUSSION

This study investigated classroom size (CS) as a predictor of bullying behaviour among Senior Secondary School adolescents in Ogun state Nigeria. The first objective was to explore the patterns of bullying behaviour among the participants. Result revealed that there is a high prevalence of bullying behaviour among the Nigerian adolescents. This result supports research findings across the globe. For instance Craig et al. [13] who in a cross-national survey of among students aged 11 to 15 years, returned a 13% and 11% respectively of victims and bullies. Prevalence in a survey of 40 European countries and North America countries ranged from 6.7% for Sweden to 40.5% in Lithuania [13]. Juvonen and Graham [42] reported that approximately 20–25% of youth were directly involved in bullying as perpetrators, victims, or both.

In a meta-analysis on bullying and cyber bullying Modecki et al. [43] reported an estimated mean prevalence of 35% for traditional bullying and 15% for cyber bullying involvement. Sittichai and Smith [44] reviewed studies from ten Asian countries returned a prevalence of about 10% concluding that bullying-like behaviours are fairly frequent in the ten countries, with comparable prevalence rates to those found in western countries. Oliveros, Figueroa, & Mayorga, [45] reported a 40 – 50% prevalence of bullying behaviour among teens in Peru and Colombia. Studies from Nicaragua showed the involvement of 35% of secondary school students [46]. However unlike the prevalence of bullying found in eastern and western countries, the prevalence of bullying behaviour found among the Nigerian samples is quite higher. This difference could be as a result of the socio-cultural and economic situations of the low income African nations. For instance Greeff and Grobler [47] returned that a percentage of 56.4% of South African students reporting to be bullied. Approximately 25–35%, of direct and indirect forms of bullying was reported in Algeria [48].

This present study also found that class size significantly predicted the individual factors (verbal bullying, social bullying, and physical bullying) as well as the composite of bullying behaviour among the Nigerian sample. There is opposing findings among researcher on the influence of classroom size on bullying behaviour in schools. Some found no association between classroom size and bullying behaviour [5,39,16], while some other studies reported that victimization was more prevalent in larger classrooms [35].

Saarento et al. [49] and Vervoort et al. [50] disclosed that peer-reported victimization was more common in smaller classrooms and that classroom size was not related to self-reported victimization. Also classroom size was found to moderate the effects of intra and interpersonal risk factors on peer- and self-reported victimization [49]. The authors explained that for socially anxious students had the risk of being bullied was exacerbated in smaller classrooms. Additionally Ma [51] found the risk of self-reported bullying to be increased in smaller middle schools.

**Table 1. Demographic characteristics of the sample**

		<b>N = 397</b>	
<b>Variables</b>	<b>Levels</b>	<b>Frequency</b>	<b>Percentage</b>
School	Community High School Ofada(CHSO)	100	25.2%
	Community High School Adesan (CHSA)	98	24.7%
	Owode High School (OHS)	100	25.2%
	Owode Grammar School (OGS)	99	24.9%
	Total	397	100%
Level of study	SSS1	77	19.4%
	SSS2	117	29.5%
	SSS3	198	49.9%
	Total	397	100%

**Table 2. Patterns of bullying behaviour among the participants**

		<b>N = 397</b>
<b>Factors</b>	<b>Prevalence (%)</b>	
Verbal bullying	42.5	
Social bullying	42.3	
Physical bullying	37.9	
Bullying behaviour total	44.8	

**Table 3. Linear regression analysis of degree of verbal bullying by classroom size (CS) among Nigerian senior secondary school adolescents**

<b>N = 397</b>							
	<b>B</b>	<b>β</b>	<b>T</b>	<b>sig</b>	<b>R<sup>2</sup></b>	<b>F</b>	<b>p</b>
(Constant)	21.00		14.75	.000			
Classroom size	-.67	-.17	-3.36	.001	.029	11.29	.001

**Table 4. Linear regression analysis of degree of social bullying by classroom size (CS) among the participants**

N = 397							
	B	$\beta$	T	sig	R <sup>2</sup>	F	p
(Constant)	21.00		16.31	.000			
Class size	-.85	-.23	-4.72	.000	.055	22.27	.000

**Table 5. Linear regression analysis of degree of physical bullying by classroom size (CS) among Nigerian senior secondary school adolescents**

N = 397							
	B	B	T	sig	R <sup>2</sup>	F	p
(Constant)	21.58		14.41	.000			
Classroom size	-.86	-.21	-4.11	.000	.042	16.91	.000

**Table 6. Linear regression analysis of degree of bullying behaviour by classroom size (CS) among Nigerian senior secondary school adolescents**

N = 397							
	B	B	T	sig	R <sup>2</sup>	F	p
(Constant)	60.60		16.68	.000			
Classroom size	-2.09	-.21	-4.10	.000	.042	16.83	.000

## 5. CONCLUSION

There is a high prevalence of bullying behaviour among Nigerian secondary school adolescents. Classroom size is a significant predictor of the individual factors of bullying behaviour (verbal bullying, social bullying, and physical bullying) as well as the composite of bullying behaviour among Senior Secondary School students in Nigeria.

## 6. RECOMMENDATION

The role of classroom size on bullying behaviour among in school adolescents is reported in this study. It is therefore of necessity that proper attention be given to student-teacher ratio which eventually determines the class size. Class size varies from nation to nation [52]. Among member countries of Organization for Economic Cooperation and Development (OECD) (of which Nigeria is not yet a member), average reported class size as at 2013 was 24.1 [52].

More countries should be encouraged to sign on OECD membership and individually determine acceptable and manageable class size for their social cultural settings. Smaller classes allow teachers to devote more time to instruction and less to classroom management could increase in students' achievement, has fewer discipline problems, as well as improve teachers' morale

and retention. Consequently, for state owned schools that are already congested, projects of reducing classroom sizes should be embarked on through the expansion of existing school infrastructures as well as building newer schools where "spill over students" and newer intake would be enrolled.

Also, policies restricting both private and state owned school authorities from enrolling more student than available teaching and non-teaching staff can handle effectively should be implemented and vigorously executed. Education ministries both at the Federal State and Local Government levels should set up designated supervisory bodies that ensure adherence to acceptable teacher- students- ratio in schools. This will go a long way in enabling the school authority give proper attention to the students, identify the victims and perpetrators of bullying behaviour and effectively deal with the problem.

Also, there is need for the services of school psychologist, social workers and counselors in all school. These professionals will help identify and assess both victims and perpetrators of bullying in other to give the necessary interventions. Finally, more research studies on the role of school climate on behaviour patterns of secondary school students especially in Nigeria should be carried out.

## CONSENT

As per international standard written participant consent has been collected and preserved by the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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