

Outcome of Bullying on Academic Performance: A Quantitative Analysis of Bullying in Higher Education

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Abstract

This research focuses on how bullying impacts academic performance for university students in Pakistan. Data was collected using an online survey among 711 university students. Regression analysis was performed to analyze the relationships between different forms of bullying and academic performance. The results showed that bullying negatively impacts academic performance and is highly correlated with psychological problems such as anxiety and depression. Of all types of bullying, cyber-bullying turns out to be the most prevalent form. This research provides important information about the problem of bullying among students in Pakistani universities.

Keywords: Academic Performance, Bullying, Cyber Bullying

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1.1. Introduction:

Going to university is nothing to joke about and can be energizing as well as frightening. It is a special encounter for some understudies as they get away from home, figure out how to become free and foster fundamental abilities.

Notwithstanding the rising number of studies that investigate the subject of harassing, few look at the tormenting of understudies at schools and colleges (Chapell et al., 2004; Coleyshaw, 2010; Duncan, 2010). Those that in all actuality do will generally zero in on predominance, characters of the harassers, announcing ways of behaving (Chapell et al., 2004; Sinkkonen, Puhakka, Meriläinen, 2014; Understudy Experience Report, 2008), and the specific sub-kind of harassing known as digital tormenting (Kraft and Wang, 2010; MacDougall and Roberts-Pittsman, 2010; Schenk and Fremouw, 2012). The dominating system in these examinations is oneself report study. In the current review, we utilized a study to duplicate past discoveries on pervasiveness and the qualities of menaces, however added a special subjective part in which the members depicted genuine harassing episodes at the college. By means of these individual stories we inspected thought processes in tormenting, a point that has, as of recently, been concentrated exclusively at the essential and optional schooling levels (Erling and Hwang, 2004; Frisé, Jonsson, and Persson, 2007; Thornberg and Knuttsen, 2011; Varjas et al., 2008), as well as menace characters, and revealing ways of behaving. Advanced education overseers, especially in understudy undertakings, progressively turn a basic eye to their grounds' way of life and supporting bullying potential; subsequently, the current concentrate likewise incorporated a few inquiries concerning understudy information and impression of grounds strategies.

Bullying is a distinctive pattern of repeatedly and deliberately harming and humiliating others, specifically those who are smaller, weaker, younger or in any way more vulnerable than the bully. The deliberate targeting of those of lesser power is what distinguishes bullying from garden-variety aggression.

Bullying can involve verbal attacks (name-calling and making fun of others) as well as physical ones, threats of harm, other forms of intimidation, and deliberate exclusion from activities. Studies indicate that bullying peaks around ages 11 to 13 and decreases as children grow older. Overt



physical aggression such as kicking, hitting, and shoving is most common among younger children; relational aggression—damaging or manipulating the relationships of others, such as spreading rumors, and social exclusion—is more common as children mature.

Most bullying occurs in and around school and on playgrounds, although the internet lends itself to particularly distressing forms of bullying. Approximately 20 percent of students report being bullied at school, according to the National Center for Education Statistics. Boys and girls are equally likely to be bullied.

bullying is by and large recognized as a successive type of savagery in instructive settings. bullying, as per various stories, seriously jeopardizes understudies in schools, and the possibility that children aren't even protected there is as yet common. (2009, Maliki et al). Shahria and others (2015) feature bullying is seen as a huge scholarly interruption and adversely affects school accomplishment all over the planet. Ladies are more inclined than men to become casualties of bullying. Shafqat (2015, p. 45) proposed that bullying can happen any place in a school, including the bathrooms, transport, regions where understudies hang tight for transport, and during or after class.

There are different forms of bullying, they are:

a) Physical Bullying:

Includes hitting, kicking, shoving, spitting, beating up, stealing or damaging property. While physical bullying causes harm to a child's body or property, the below forms of bullying cause psychological harm. Such offensive, degrading and rejecting behaviors undermine and destabilize victimized children's sense of themselves, of their place in the school, and of their place in the world.

b) Verbal bullying:

Includes name-calling, mocking, Hurtful teasing, insults, slurs, humiliating or threatening someone, racist comments or sexual harassment.

c) Social bullying:

Includes rolling your eyes or turning away from someone, excluding others from the group, getting others to ignore or exclude, gossiping or spreading rumors, setting others up to look foolish and damaging reputations and friendships



d) Electronic or cyber bullying:

Includes the use of email, cell phones, text messages and internet sites to threaten, harass, embarrassment, socially exclude or damage reputations and friendships.

e) Racial bullying:

Includes treating people badly because of their racial or ethnic background saying bad things about a cultural background, calling someone racist names or telling racist jokes.

f) Religious bullying:

Includes treating people badly because of their religious background and beliefs making negative comments about religious background or beliefs, calling someone names or telling jokes based on his or her religious beliefs in an effort to hurt them.

g) Sexual bullying:

h) Includes leaving someone out; treating them badly or making them feel uncomfortable because of their sex making, sexiest comments or jokes; touching, pinching or grabbing someone in a sexual way; making crude comments about someone's sexual behavior or orientation or spreading a sexual rumor.

i) Disability bullying:

Includes leaving someone out or treating them badly because of disability. Making someone feel uncomfortable or making jokes hurt someone because of disability

j) Extortion bullying:

A type of bullying where the bully threatens to hurt you if you do not do what he says.

Bullying and peer exploitation generally by implication affect the casualties, and they lead to unfortunate scholarly execution (Holt, Finkelhor, and Kantor, 2007). Any type of learning has an objective of magnificent scholastic execution, and when it isn't achieved, learning isn't powerful. In view of such suspicions, a few endeavors should be made to guarantee that scholastic accomplishment is accomplished.

Scholarly accomplishment is the result that shows the degree of execution recorded by any person in the growing experience with objectives that were set for the educational climate in schools, colleges, and universities (Steinmayr et al., 2016). Any type of inspiration has a huge impact on scholastic accomplishment (Effie, 2005). For example, for a situation where understudies are not



persuaded yet wind up in conditions that frighten them off from considering, their scholarly accomplishment is low (Dweck, 2007).

1.2. Significance of Study:

This research empowers us to comprehend the connection between issues connected with bullying and its outcome on understudies. It will likewise feature the mindfulness among individuals to be aware in the event that they have been harassed to avoid being harassed by utilizing different systems and plans and also tries to duplicate past pervasiveness rates, yet with phenomenal consideration regarding the subtlety of bullying types. As far as anyone is concerned, no past examination all the while explored both the conventional sorts of bullying and digital bullying; nor, as far as anyone is concerned, have specialists of advanced education bullying treated physical, verbal, and social bullying autonomously, instead of lumping them together as the "conventional" types. Notwithstanding these strategic advances, the subjective piece of the current review considered the distinguishing proof of co-happening types (like social and cyber), a chance not explored in past examinations.

1.3. Limitations of study:

This study is limited to universities students. The study uses random sampling technique. The study is based on primary data which was gathered through surveys from the students of different age groups and from different departments and different universities.

1.4. Research Objectives:

The general point of the review is to analyze the impact of bullying on scholarly execution of understudies concentrating on in different universities in Pakistan. Other explicit goals are

- a. To assess how bullying can affect both the victims and the preparators, as far their education outcomes are concerned.
- b. To recognize the normal kinds of bullying among understudies of in the higher education institutions (HEIs)



1.5. Research question:

- a. Does bullying affect the academic performance of the students or otherwise?
- b. Is there any outcome or otherwise of bullying on the victims and the perpetrators? If yes, then what is the outcome?

2. Literature Review:

Mbah(2020) investigates the effect of bullying on students' academic performance. The study uses primary data of 30 participants, 24 of whom are upper sixth-class students and 6 of whom are instructors at secondary schools in the Northwest and Southwest of Cameroon. the data is collected through online surveys and interviews by using a random sampling method using a mixed method approach. The study focused on the academic achievement of pupils as it examined the effects of bullying in Cameroonian public and private schools. According to the study, bullying in schools frequently takes the form of verbal, physical, and social abuse, all of which have detrimental outcomes. These bullying acts generally take place in a school setting, such as a classroom or dorm room, as students are leaving or entering the building. According to the report, bullying is Students' conduct and academic performances are significantly affected by schools. According to the study, bullying causes children to become fearful, anxious, and disengaged from class activities, all of which have harmed their academic performance. The survey also shows that older students are typically the ones who bully their juniors, which leads to many students quitting school and other students moving schools as a result of bullying. The study findings also show that bullying victims have a poor attitude toward school, which affects their academic success. Victims of bullying outside of school report the incidents, and instructors and the school administration respond to them by taking appropriate actions. The study finds that to stop such bullying practices, school regulations, policies, and disciplinary actions have been implemented in schools. However, because the prevalence of bullying is increasing and the majority of kids are being involved, they are ineffective in tackling the problem. The present study has some limitations. The first limitation is that the study only focuses on private and public schools in Cameroon, which might have been different from other schools around the world. As a result, the findings of this study might not be generalized or used in other public or private schools worldwide. Second, the study's participants were restricted to instructors and pupils from secondary schools in Cameroon. As a result, the researcher was unable to incorporate more educators and pupils from different institutions. Third,



the opinions expressed by the participants may not be accurate since they may have supplied skewed impressions to make themselves seem knowledgeable to the researcher. To address this, it was explained to the participants that their answers were for research purposes only and would not be deemed correct or incorrect. The study faces some limitations due to the sample size and the few questions that were asked, which was the fourth restriction. There were further restrictions due to the format of the survey and interviews.

Faucher et al. (2014) probes cyberbullying among university students: gendered experiences, impacts and perspectives. This article summarizes the results of larger research on cyberbullying at the university level that involves four Canadian institutions, a policy scan, student and faculty surveys, student focus groups, faculty interviews, and policymaker interviews. This article uses online polling through the email list of various groups at the institutions in order to reach the widest audience possible. The article includes 100 items total in the questionnaires, including open-ended, multiple-choice, and yes/no questions. In the first portion, questions center on the respondent's backgrounds, fundamental demographic details, and ICT usage habits. The second question asks about any cyberbullying you may have encountered in the last year. The final question inquires if there has been any online bullying during that time. Respondents were asked to rank several cyberbullying prevention strategies in the fourth part. They were invited to provide their thoughts on a set of statements about cyberbullying in the fifth segment. At four Canadian institutions, 1925 online questionnaires were completed between September 2012 and April 2014. Utilizing online technologies provided by Fluid Surveys, the surveys were gathered. There were no identifiers and the questionnaires were completely anonymous. The poll results show how commonplace ICT is in university students' lives. This point of departure enables us to concentrate on the significance of the connections and interactions that take place in this setting. In the past year, cyberbullying has harmed far over 20% of the student survey respondents. These figures significantly support the idea that cyberbullying is a major problem in higher education, just as it has been at lower levels.

Yadav et al. (2021) looks over bullying effect on student's academic performance. The study uses primary data collected from the local private school of Dehradun with a sample size of 120 students from "Times World School". The research uses sampling data quantitative research approach. The



sample covers students from grade 7 to grade 12 between 10 years to 18 years including both genders. The investigation is guided by two standardized questionnaires. The "Child Adolescent Bullying Scale (CABS)" and the "Achievement Motivation Scale" were the two assessments. Two hypotheses are tested (i) bullying among students has no noticeable effect on their academic performance. (ii) Student bullying has a significant effect on their academic performance. The findings of this study suggest that bullying at school has a detrimental effect on children's academic success. The study's analysis was significant at the 0.05 level, indicating a bad link between bullying and academic achievement. According to the study's findings, bullied adolescents perform much worse in school than their non-victimized peers. The result of the study shows that bullying has a detrimental effect on academic progress. Bullying may undermine a student's desire to study and lead to a range of psychological issues like dejection, anxiety, and trauma. To avoid repeat incidents, schools must implement several preventative measures, such as the Olweus bullying prevention program. Groups linked with the school community and all stakeholders, including parents and school staff, should collaborate to stop and minimize bullying events in school settings. Parents should volunteer to notify the anti-bullying policy whenever one of their children is a victim of bullying at school.

The previous studies done by Faucher et al. (2014) and Yadav et al. (2021), for instance, show the negative effects of bullying on the performance of students academically. Most of these studies have been conducted using data collected from school contexts while some were based on Western countries. In addition, there is very little information concerning this problem in institutions of higher learning in developing countries such as Pakistan. Moreover, most studies in the past have classified all forms of bullying under one heading without distinguishing the differences among them. The present study attempts to address these shortcomings by analyzing various types of bullying and focusing specifically on university-related bullying in Pakistan.

3.1. Research framework:

This study investigates the impact of bullying on the academic performance of university students in Pakistan. Two distinct methods are adopted for the purpose. First, there is an examination of the factors that lead to the bullying of students. Second, there is an analysis of the different kinds of



bullying and the factors behind them. For this purpose, several variables have been considered including personal information, academic background, and family status.

3.2. Study Area and Sampling Strategy

The study utilized primary information collected among the learners enrolled in higher education establishments in the Islamabad Capital Territory. In this regard, a multi-stage sampling approach was applied to achieve this purpose. To start with, the universities were selected based on the diversity of the fields offered by different institutions. Secondly, the participants were contacted and requested to participate in the survey administered using Google Forms. Consequently, the total number of valid samples obtained was 711. Despite obtaining the diversity of participants, the possibility of self-selection bias cannot be ruled out.

3.3. Data Description

The data has been described as per following table with age of over 21 years with almost half of the respondents are female, with mean 16 years represent almost 114. Cyber bullying tops the list, followed by verbal but physical bullying at the bottom of the list.



Table 1: Descriptive Statistics of Important Variables.

Variable	Description	Mean	Std. Dev.	Min	Max
<i>Panel A: Respondent Characteristics</i>					
Age	Age of respondent (years)	21.633	2.342	18	32
Gen	Gender (Male = 1, Otherwise = 0)	0.52	Dummy	0	1
University	Respondent's university (university dummies)	Dummy	Dummy	0	1
Department	Respondent's department (department dummies)	Dummy	Dummy	0	1
District	District of birth (district dummies)	Dummy	Dummy	0	1
<i>Panel B: Academic Profile</i>					
Yod	Year of degree program	16.051	0.898	12	24
PDG	Professional degree grade	90.127	21.319	65	144
Sem	Semester of respondent	3.745	1.890	0	10
Shift	Shift (Morning = 1, Evening = 0)	Dummy	Dummy	0	1
Cgpac	Current CGPA	3.102	2.596	1.9	4.00
<i>Panel C: Parental Education</i>					
PEF	Father's education (years of schooling)	12.897	3.725	0	18
PEM	Mother's education (years of schooling)	10.667	5.266	0	24
<i>Panel D: Bullying and Ragging Indicators</i>					
Physical	Physical bullying (Yes = 1, Otherwise = 0)	0.21	Dummy	0	1
Cyber	Cyber bullying (Yes = 1, Otherwise = 0)	0.83	Dummy	0	1
Social	Social bullying (Yes = 1, Otherwise = 0)	0.31	Dummy	0	1
Ragging	Ragging — fresh entrants (Yes = 1)	0.34	Dummy	0	1
Poking	Poking (Yes = 1, Otherwise = 0)	0.25	Dummy	0	1
Verbal	Verbal bullying (Yes = 1, Otherwise = 0)	0.61	Dummy	0	1
<i>Note:</i> Std. Dev. = Standard Deviation. University, Department, and District variables are represented by sets of indicator (dummy) variables and are excluded from continuous summary statistics.					

4. Results and Discussions

In this section, two empirical models are estimated, i.e. model-I e.g. determinants of bullying and model-II e.g. how victimization can affect education outcomes.



4.1. Variable Description

In the present study, two main variables can be considered as the dependent ones. First, one should refer to the fact of being bullied and, secondly, the type of bullying that a student experienced – verbal, physical, cyber-bullying, social, ragging, and poking. Academic achievements are measured by students' current CGPA. The independent variables, in turn, embrace different areas. One may speak about demographic information (age and gender), academic information (semester, educational major, and class shift), as well as family-related information (the level of education obtained by students' parents).

4.2. Empirical Strategy

Model-I and Model-II are estimated by using ordinary least square methods to analyze the determinants of bullying and how victimization can affect education outcomes.

4.3. Empirical Model:

- i. **Victimization (vic)**, the respondent has experienced bullying: Yes = 1, otherwise 0 (dummy) = $\beta_0 + \beta_1age + \beta_2gen + \beta_3Dis. + \beta_4uni + \beta_5Disc + \beta_6dept + \beta_7yod + \beta_8PDG + \beta_9sem + \beta_{10}3shift + \beta_{11}cgpac + \beta_{12}\sum MT + \beta_{13}PEF + \beta_{14}PEM + \beta_{15}NCGPA$
- ii. **Type of Bullying** = $\beta_0 + \beta_1age + \beta_2gen + \beta_3\sum Dist. + \beta_4\sum uni + \beta_5\sum Disc + \beta_6\sum dept + \beta_7yod + \beta_8PDG + \beta_9sem + \beta_{10}shift + \beta_{11}vic + \beta_{12}\sum MT + \beta_{13}PEF + \beta_{14}PEM + \beta_{15}NCGPA$

In eq(i), vic is a dependent variable however, Age, gen, dist., disc, dept, yod, PDG, sem, shift, MT, PEF, PEM while $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}, \beta_{13}, \beta_{14}$, and β_{15} are parameters of variables and β_0 is a constant term.

In eq(ii) type of victimization (verbal, physical, Social, cyber, ragging, poking, bad thing, DR) is a dependent variable however, Age, gen, sum of dist., sum of disc, sum of dept, yod, PDG, sem, shift, ncgpa, sum of MT, PEF, PEM. Whilst $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$ are parameters of variables and β_0 is a constant term.

5. Results and Discussion

Table 2(a): Results of Regression Analysis

Victimization (Yes/No)	Coef.	Significance	Std. Err.
Age	0.014	*	0.009
Gen	-0.018	Insignificant	0.038
Yod	-0.004	Insignificant	0.021
PDG	0.002	*	0.001
Sem	-0.030	Insignificant	0.011
Shift	0.194	***	0.046
NCGPA	-0.010	Insignificant	0.007
PEF	0.010	*	0.006
PEM	-0.019	Insignificant	0.004
_cons	0.234	Insignificant	0.370

1. district, university, department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect, 2. *-10%, **-5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(a) is a multivariate table that shows significance level and relationship between the dependent and independent variables. In this victimization is the dependent variable and age, gen, yod, pdg, sem, shift, NCGPA, PEF, PEM are independent variables. dummies of university, department, discipline and mother tongue is used for fixed effects. Age is significant at 10% and



shows positive relations which means that students whose age is above 20 become the victims of bullying. gen shows negative insignificant result signifying that female students are more accorded as victims of bullying as compared to male students. yod is insignificant and intimate negative relation which signifies that students whose degree program is less than 16 years are more indulge in bullying. PDG is significant at 10% and confers positive relation which insinuates that students in professional degree programs are more entangled in bullying. semester shows negative and insignificant relation which means that students of 1st and 2nd semester are caught more in bullying. Shift is significant at 1% and shows positive relation which alludes that students in morning shift become more victims of bullying. NCGPA shows insignificant negative relation which indicates that bullying has badly affected the academic performance of the victim. PEF is significant at 10% and shows positive effect which signifies that students whose fathers are highly educated are more victimized for bullying. PEM shows negative insignificant relation which means that students whose mothers are less educated hare more victimized for bullying as compared to students whose mother education is higher.



Table 2(b): Results of Regression Analysis

Verbal	Coef.	Significance	Std. Err.
Age	0.004	Insignificant	0.009
Gen	0.022	Insignificant	0.039
Yod	0.011	Insignificant	0.021
PDG	0.003	***	0.001
Sem	0.006	Insignificant	0.011
Shift	0.052	Insignificant	0.047
NCGPA	0.010	Insignificant	0.007
PEF	0.007	Insignificant	0.006
PEM	-0.010	Insignificant	0.004
_cons	-0.077	Insignificant	0.380

1. 1. district, university. department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect, 2. *-10%, **-5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(b) is a multivariate table that shows significance level and relationship between the dependent and independent variables. In this table verbal is the dependent variable and age, gen, yod, pdg, sem, shift, NCGPA, PEF, PEM are independent variables. Dummies of university, department, discipline and mother tongue are used for fixed effects. Age is insignificant but shows positive relation which means that students whose age is above 20 become the victims of bullying. Gen shows positive but insignificant result signifying that male students are more accorded as victims of verbal bullying as compared to female students. Yod is insignificant but intimate positive



relation which signifies that students whose degree program is more than 16 years are more victims of verbal bullying. PDG is significant at 1% and confers positive relation which insinuates that students in professional degree programs are more entangled in verbal bullying. sem shows positive but insignificant relation which means that students above 2nd semester are caught more in verbal bullying. Shift is insignificant but shows positive relation which alludes that students in morning shift become more victims of verbal bullying. NCGPA shows insignificant but positive relations which indicate that verbal bullying does not affect the academic performance of the victim. PEF is insignificant but shows positive effect which signifies that students whose fathers are highly educated are more victimized for verbal bullying. PEM shows negative insignificant relations which means that students whose mothers are less educated are more victimized for verbal bullying as compared to students whose mother education is higher.



Table 2(c) – Multivariate Analysis

Cyber	Coef.	Significance	Std. Err.
Age	-0.009	Insignificant	0.005
Gen	-0.023	Insignificant	0.020
Yod	-0.004	Insignificant	0.011
PDG	-0.001	Insignificant	0.000
Sem	0.003	Insignificant	0.006
Shift	0.007	Insignificant	0.024
NCGPA	-0.004	Insignificant	0.004
PEF	0.007	**	0.003
PEM	-0.008	Insignificant	0.002
_cons	0.375	Insignificant	0.192

1. district, university, department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect, 2. *-10%, **-5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(c) is a multivariate table that shows significance level and relationship between the dependent and independent variables. In this table, cyber is the dependent variable and age, gen, yod, pdg, sem, shift, NCGPA, PEF, PEM are independent variables. Dummies of university, department, discipline and mother tongue are used for fixed effects. Age is insignificant and shows a negative relation which means that students whose age is below 20 become the victims of cyber



bullying. gen shows negative insignificant result signifying that female students are more accorded as victims of cyber bullying as compared to male students. yod is insignificant and shows negative relation which signifies that students whose degree program is less than 24 years are more victims of cyber bullying. PDG is insignificant and confers negative relation which insinuates that students in professional degree programs are less entangled in cyber bullying. sem shows positive but insignificant relation which means that students above 2nd semester are caught more in cyber bullying. Shift is insignificant and shows negative relation which alludes those students in evening shift becomes more victims of cyber bullying in comparison to morning shift. NCGPA shows insignificant and negative relation which indicates that cyber bullying does affect the academic performance of the victim. PEF is significant at 5% and shows positive effect which signifies that students whose fathers are highly educated are more victimized for cyber bullying. PEM shows negative insignificant relations which means that students whose mothers are less educated are more victimized for cyber bullying as compared to students whose mother education is higher.



Table 2(c): A Multivariate Regression Analysis

Social	Coef.	Significance	Std. Err.
Age	0.025	***	0.008
Gen	-0.048	Insignificant	0.034
Yod	-0.003	Insignificant	0.018
PDG	0.000	Insignificant	0.001
Sem	-0.023	Insignificant	0.010
Shift	-0.013	Insignificant	0.041
NCGPA	0.000	Insignificant	0.006
PEF	-0.018	Insignificant	0.005
PEM	0.013	***	0.004
_cons	-0.008	Insignificant	0.332

1. district, university, department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect , 2. *-10%, **-5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(d) is a multivariate table that shows significance level and relationship between the dependent and independent variables. In this table, social is the dependent variable and age, gen, yod, pdg, sem, shift, NCGPA, PEF, PEM are independent variables. Dummies of university, department, discipline and mother tongue are used for fixed effects. Age is significant at 1% and shows positive relations which means that students whose age is above 20 become the victims of



social bullying. gen shows negative insignificant result signifying that female students are more accorded as victims of social bullying as compared to male students. yod is insignificant and shows negative relation which signifies that students whose degree program is less than 24 years are more victims of social bullying. PDG is insignificant and confers positive relation which insinuates that students in professional degree programs are more entangled in social bullying. sem shows negative insignificant relation which means that students of 1st semester are caught more in social bullying. Shifts are insignificant and show negative relation which alludes those students in evening shift becomes more victims of social bullying in comparison to morning shift. NCGPA shows insignificant but positive relations which indicate that social bullying does not affect the academic performance of the victim. PEF is insignificant and shows negative relation which signifies that students whose fathers are less educated are more victimized for social bullying in comparison with students whose father is well educated. PEM is significant at 1% and shows positive relation which means that students whose mothers are well educated are more victimized for social bullying as compared to students whose mother's education is less.



Table 2(d): A Multivariate Regression Analysis

Physical	Coef.	Significance	Std. Err.
Age	0.035	***	0.008
Gen	0.011	insignificant	0.032
Yod	0.015	insignificant	0.018
PDG	0.001	insignificant	0.001
Sem	-0.026	insignificant	0.009
Shift	0.031	insignificant	0.039
NCGPA	0.010	*	0.006
PEF	0.009	*	0.005
PEM	-0.005	insignificant	0.003
_cons	-0.849	insignificant	0.316

1. district, university, department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect , 2. *-10%, **-.5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(d) is a multivariate table that shows significance level and relationship between the dependent and independent variables. In this table physical is the dependent variable and age, gen, yod, pdg, sem, shift, NCGPA, PEF, PEM are independent variables. Dummies of university, department, discipline, and mother tongue are used for fixed effect. It can be seen that age influences bullying behavior at 1% level of significance, since older respondents are somewhat



more susceptible to it. This could be attributed to the fact that they have experienced a broader array of social environments while studying at university. In addition, it is evident that gender is insignificant in terms of bullying behavior in the considered sample. yod is insignificant, however shows positive relation which signifies those students whose degree program is above 16 years are more victims of physical bullying. PDG is insignificant, however confers positive relation which insinuates that students in professional degree programs are more entangled in physical bullying. sem shows negative insignificant relation which means that students of 1st semester are caught more in physical bullying. Shift is insignificant however shows positive relation which alludes those students in morning shift becomes more victims of physical bullying in comparison to evening shift. NCGPA is significant at 10% and shows positive relation which indicates that victims do not take physical bullying as serious issue and it does not affect the academic performance of victims. PEF is significant at 10% and shows positive relations which signifies that students whose fathers is well educated are more victimized for physical bullying in comparison with students whose father is less educated. PEM is insignificant and shows negative relation which means that students whose mothers are less educated are more victimized for physical bullying as compared to students whose mother is well educated.



Table 2(e): A Multivariate Regression Analysis

Ragging	Coef.	Significance	Std. Err.
Age	0.000	Insignificant	0.008
Gen	0.004	Insignificant	0.032
Yod	0.000	Insignificant	0.018
PDG	0.000	Insignificant	0.001
Sem	0.000	Insignificant	0.009
Shift	0.002	Insignificant	0.039
NCGPA	0.000	Insignificant	0.006
PEF	0.000	Insignificant	0.005
PEM	0.000	Insignificant	0.003
_cons	-0.002	Insignificant	0.316

1. 1. district, university. department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect , 2. *-10%, **-5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(e) is a multivariate table that shows significance level and relationship between the dependent and independent variables.in this table ragging is the dependent variable and age, gen, yod, pdg, sem, shift, NCGPA, PEF, PEM are independent variables. dummies of university, department, discipline and mother tongue are used for fixed effects. Age is insignificant however shows negative relation which means that students whose age is below 20 becomes the victims of ragging. gen shows positive but insignificant relation signifying that male students are more



accorded as victims of ragging as compared to female students. yod is insignificant however shows positive relation which signifies those students whose degree program is above 16 years are more victims of raging. PDG is insignificant and confers negative relation which insinuates that students in professional degree programs are less entangled in ragging. sem shows positive however insignificant relation which means that students of above 1st semester are caught more in ragging. Shift is insignificant, however shows positive relation which alludes those students in morning shift becomes more victims of ragging in comparison to evening shift. NCGPA is insignificant and shows negative relations which indicates that ragging has affected the academic performance of victims. PEF is insignificant, however shows positive relation which signifies that students whose fathers is well educated are more victimized for ragging in comparison with students whose father is less educated. PEM is insignificant but shows positive relation which means that students whose mothers are well educated are more victimized for ragging as compared to students whose mother is less educated.



Table 2(f): A Multivariate Regression Analysis

Bad-thing	Coef.	Significance	Std. Err.
Age	0.000	Insignificant	0.001
Gen	0.002	Insignificant	0.003
Yod	0.000	Insignificant	0.002
PDG	0.000	Insignificant	0.000
Sem	0.000	Insignificant	0.001
Shift	-0.007	Insignificant	0.004
NCGPA	0.000	Insignificant	0.001
PEF	0.000	Insignificant	0.000
PEM	0.000	Insignificant	0.000
_cons	0.019	Insignificant	0.029

1. 1. district, university, department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect , 2. *-10%, **-5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(f) is a multivariate table that shows significance level and relationship between the dependent and independent variables. In this table bad thing is the dependent variable and age, gen, yod, pdg, sem, shift, NCGPA, PEF, PEM are independent variables. Dummies of university, department, discipline and mother tongue is used for fixed effects. Age is insignificant and shows negative relation which means that students whose age is below 20 become the victims of bad-thing. Gen shows positive but insignificant relation signifying that male students are more accorded



as victims of bad thing as compared to female students. yod is insignificant and shows negative relation which signifies those students whose degree program is below 24 years are more victims of bad thing. PDG is insignificant and confers negative relation which insinuates that students in professional degree programs are less entangled in bad things. sem shows negative insignificant relation which means that students of 1st semester are caught in bad thing. Shifts are insignificant and show negative relation which alludes those students in evening shift become more victims of bad things in comparison to morning shift. NCGPA is insignificant but shows positive relations which indicates that victims do not take bad things seriously, so it does not affect their academic performance. PEF is insignificant and shows negative relation which signifies that students whose fathers is less educated are more victimized for bad things in comparison with students whose father is well educated. PEM is insignificant but shows positive relation which means that students whose mothers are well educated are more victimized for bad things as compared to students whose mother is less educated.



Table 2(g): A Multivariate Regression Analysis

Poking	Coef.	significance	Std. Err.
Age	0.002	***	0.001
Gen	0.001	insignificant	0.003
Yod	0.013	insignificant	0.002
PDG	0.000	insignificant	0.000
Sem	-0.001	insignificant	0.001
Shift	0.003	insignificant	0.003
NCGPA	0.000	insignificant	0.001
PEF	0.001	insignificant	0.000
PEM	0.000	insignificant	0.000
_cons	-0.251	insignificant	0.027

1. 1. district, university. department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect , 2. *-10%, **-5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(g) is a multivariate table that shows significance level and relationship between the dependent and independent variables. In this table, Poking is the dependent variable and Age, Gen, Yod, PDG, Sem, Shift, NCGPA, PEF, PEM are independent variables. Dummies of university, department, discipline and mother tongue are used for fixed effects. Age is significant at 1% and shows a positive relation which means that students whose age is above 20 become the victims of Poking. Gen shows a positive but insignificant relation, signifying that male students are more



accorded as victims of poking as compared to female students. yod is insignificant however shows positive relation which signifies those students whose degree program is above 16 years are more victims of poking. PDG is insignificant and confers negative relation which insinuates that students in professional degree programs are less entangled in poking. sem shows negative insignificant relation which means that students of 1st semester are caught in poking. Shifts are insignificant but show positive relation which alludes those students in morning shift become more victims of poking in comparison to evening shift. NCGPA is insignificant and shows negative relations which indicates that poking has affected the academic performance of victims. PEF is insignificant, however, shows positive relation which signifies that students whose father is well educated are more victimized for poking in comparison with students whose father is less educated. PEM is insignificant and shows negative relation which means that students whose mothers are less educated are more victimized for poking as compared to students whose mother is well educated.



Table 2(h): A Multivariate Regression Analysis

DR	Coef.	Significance	Std. Err.
Age	-0.018	Insignificant	0.007
Gen	0.031	Insignificant	0.031
Yod	-0.017	Insignificant	0.017
PDG	-0.001	Insignificant	0.001
Sem	0.018	**	0.009
Shift	-0.014	Insignificant	0.038
NCGPA	-0.003	Insignificant	0.006
PEF	0.004	Insignificant	0.005
PEM	0.006	*	0.003
_cons	0.783	***	0.306

1. 1. district, university. department, discipline and mother tongue dummies are used to control for district level fixed effect and that's how dummies for university, department, discipline and mother tongue is used for fixed effect , 2. *-10%, **-5%, ***-1%, 3. R2= 0.0380

Interpretation:

Table 2(h) is a multivariate table that shows significance level and relationship between the dependent and independent variables. In this table, others (type of bullying other than mentioned above) is the dependent variable and age, gen, yod, pdg, sem, shift, NCGPA, PEF, PEM are independent variables. Dummies of university, department, discipline and mother tongue are used for fixed effects. Age is insignificant and shows a negative relation which means that students whose age is below 20 become the victims of bullying. Gen shows a positive but insignificant relation



signifying that male students are more accorded as victims of bullying as compared to female students. γ is insignificant and shows negative relation which signifies those students of undergraduate programs are more victims of bullying. PDG is insignificant and confers negative relation which insinuates that students in professional degree programs are less entangled in bullying. δ is significant at 5% and shows positive relation which means that students of higher semester are caught in bullying. Shifts are insignificant and show negative relation which alludes those students in evening shift become more victims of bullying in comparison to morning shift. NCGPA is insignificant and shows negative relations which indicates that bullying has affected the academic performance of victims. PEF is insignificant, however, shows positive relation which signifies that students whose father is well educated are more victimized for bullying in comparison with students whose father is less educated. PEM is significant at 10% and shows positive relation which means that students whose mothers are well educated are more victimized for bullying as compared to students whose mother is less educated.

Overall Interpretation

In all the models, the results prove that bullying is an outcome of various factors such as demographic factors, academic factors, and institutional factors. However, only those coefficients that have statistical significance can be considered as having an association with bullying. Variables such as age, shift schedule, and educational status of parents exhibit a constant trend. However, in case of academic achievements, especially CGPA, the relationship does not seem to carry any statistical significance in almost all cases.

6.1. Conclusions:

The objective of this research was to examine the relationship between bullying and academic achievement among university students in Pakistan, with emphasis on what causes the victims to be bullied and how frequently each form of bullying takes place. The results indicate that bullying is multi-dimensional, dependent on many aspects such as age, academia, and the characteristics of institutions. Age and characteristics of the institutions, particularly class timings, can accurately predict the occurrence of bullying.



Furthermore, those enrolled in professional programs appear to be more vulnerable to bullying. Specifically, some forms of bullying like verbal bullying tend to reflect the nature of competitiveness and pressure that is evident in such learning institutions. In addition, parental education appears to be a factor since education attained by the father correlates with cyber bullying while maternal education is correlated with social bullying.

Verbal bullying and cyber-bullying have become very prevalent, highlighting the growing importance of bullying via digital means and non-physical bullying. Social bullying and ragging also take place. Ragging is more likely to be experienced by students during their initial semesters owing to student hierarchies. The research also concludes that most of the bullying is observed in undergraduate programs as compared to post graduate programs and professional degree programs. It is also observed that those students became the victims of bullying whose parents were not much educated.

6.2. Recommendations:

According to the brief research done on bullying it is recommended that universities having higher rates of bullying should take necessary actions and should have good bond with students so that students may not hesitate to complain about the problem they are facing.

The transition into morning classes affects bullying significantly; therefore, universities must implement stricter monitoring and interventions to counter the effects, particularly within academic regions where crowds of people assemble. Considerations may be considered such as having greater supervision, organizing planned activities, and improving student-to-staff relationships. Such measures can minimize the risk of bullying occurrences.

In general, students enrolled in professional degrees experience verbal harassment more frequently than others. In this regard, universities can implement measures such as holding seminars for increasing awareness about this problem, developing peer counseling, and providing conflict resolution training. Such measures may aid in addressing the pressure of competition among students.



Since the problem of cyber-bullying is common and also associated with family backgrounds, there is a need to establish policies regarding digital well-being. These policies may contain some specific features that will be helpful in addressing the issue at hand. Firstly, it is necessary to make sure that there are policies about good online behavior. Secondly, it is essential to establish an anonymous reporting policy. Thirdly, it is vital to conduct awareness campaigns.

From the research, it is evident that first semester students are more vulnerable to ragging incidents. As such, there is a need for universities to emphasize organized assistance for fresher. Orientation needs to be improved. Anti-ragging laws should be strictly enforced, and peer groups should be put in place.

The role played by parental education in some kinds of bullying suggests that there may be links between a family's upbringing and a student's life at school. As such, higher institutions of learning may consider enrolling the parents in any awareness campaigns or include lessons on social conduct during student development sessions.

There is a need for clear reporting channels through which complaints about bullying can be made privately. There must be policies that define what is considered bullying including cases of cyber-bullying and ostracism. There should also be severe penalties for such actions.

It is imperative for universities to foster an inclusive environment for all individuals. This can be achieved by promoting self-initiative among students, conducting anti-bullying campaigns, and organizing training programs for the faculty. Such measures can significantly contribute to addressing the underlying social problems that precipitate bullying.



Conflict of interest

Authors have no conflict of interest

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Data Availability

All the data is available in the manuscript. And the datasets used and or analyzed during the current study are available from the corresponding author on reasonable request.

Authors contributions

All authors have contributed to various sections of this manuscript.



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