

## Finding the Link Between Cyberbullying and Suicidal Behavior Among School Going Adolescents

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### KEYWORDS

Cyber Bullying,  
Suicidal Behaviour,  
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### ABSTRACT

**Background:** Studies have shown that cyberbullying or online bullying has increased the risk of suicidal thoughts and suicidal behaviours. Although suicide or suicidal behaviours are not directly related to cyberbullying it can be said that cyberbullying increases depression rates and feelings of isolation which end up in suicidal calls. This research aims to understand the nexus between cyberbullying and suicidal behaviour. **Methods and materials:** A self-administered and anonymous online questionnaire was used to survey 410 higher secondary school adolescents aged 16 to 18 and the data analysis has been carried out by statistical analysis with the help of IBM-SPSS software of version 22. **Results:** The findings of the results have revealed that cyberbullying was more prevalent among the respondents than cyber victimization. There was a small fraction of the population that said that they had undergone suicidal behaviour due to cyberbullying. Between text messaging and multimedia messaging, the best platform for cyberbullying was multimedia messaging. The reason behind this was its usage around the world, its popularity, and its ease. Teenagers over the age of 17 years have reported the highest percentage share for suicide rates and most of them were female. **Conclusion:** It can be concluded that cyber bullying is a threat to those girls who is currently studying in 11<sup>th</sup> standard and or age 17 years whose parents are separated or not living together.

### 1. Introduction

Cyberbullying, a form of harassment carried out electronically, has been increasing among teenagers and adolescents due to advancements in technology.<sup>[1]</sup> It is carried out through various online communication mediums such as forums, social media, online chats, and text messages. In the US, around 40% of internet users have reported facing cyberbullying in their life, with middle and high school students having the highest percentage share at 36.5%. New Hampshire has reported the highest number of cases of cyberbullying incidence at 20.1%.<sup>[2]</sup>

Suicide is an intentional act that kills or causes death intentionally. According to WHO around 700,000 people die annually, with the highest number of suicide attempts occurring in the age group of 15-29

years. Around 77% of global suicides occur mostly in middle-income countries and low-income countries.<sup>[3]</sup> Suicidal rates are higher for vulnerable groups, such as LGBTQ+ communities, refugees, prisoners, and migrants.<sup>[4]</sup> Some of the most common suicidal behaviours that have been witnessed as of now include sleeping less or too much, withdrawing feeling isolated, behaving recklessly, feeling trapped in pain that is unbearable, and increasing the consumption of alcohol and drugs.<sup>[5]</sup> When it comes to youth suicidal behaviours include “expressing hopelessness, being overwhelmed by personal pain, withdrawing from social connections, becoming angry, and increasing irritability.”<sup>[6]</sup>

The COVID pandemic has increased suicidal rates in the US, with a survey revealing that around 9% of the total adolescents were attacked through cyberbullying.<sup>[7]</sup> The adolescent population who witnessed cyberbullying was almost 40% of the total adolescents who reported suicidal thoughts.<sup>[8]</sup> One in every 4 cases of cyberbullying has ended up with suicidal thoughts and attempts, which is concerning. The survey that the government carried out has revealed that cyberbullying was not directly responsible for the implantation of suicidal thoughts but if it is carried out on a routine basis this could end up in depression which can induce suicidal thoughts in a person. The objectives of this study were to find the prevalence of cyberbullying among school-going adolescents and to see the association between cyberbullying and cyber victimization with suicidal behaviour among school-going adolescents.

## **2. Methodology**

### **2.1 Ethical clearance**

This cross-sectional study was carried out following approval from the Institutional Ethical Committee (Approval Number: SMC/IEC/04/029).

### **2.2 Sample Size Calculation**

Based on a study done by Child Rights and your study, it was seen that 9.2% of subjects had experienced bullying. Using G power software (3.1.9.4) and considering a 3% allowable error the sample size was calculated as 371 with a non-response rate of 10%. The total sample size is 410.

### **2.3 Study Design and Participants**

A Cross-sectional study was conducted in 6 higher secondary schools (both public and private schools). To select one state from each zone and one district from each state within each stratum, simple random sampling was used. Simple random sampling was used to select one school from each district. The inclusion criteria encompassed students aged between 16 to 18 years old, and who are willing to participate in the study. Those with conditions that made it difficult to understand or complete the questionnaires, such as severe intellectual disability, pervasive developmental disorder, and uncontrolled hyperactivity or inattention, were barred from participating in the study.

### **2.4 Questionnaire and Measures**

The questionnaire has 3 sections

#### **Section 1: Socio-demography details of the participants**

Which include age, gender, place of stay, grade studying, marital status of parent, social media account ownership, and history of substance abuse.

#### **Section 2: Suicidal Behaviour**

The following questions were used to assess suicidal behaviour (NHMS, 2017):

- (1) Suicidal ideation was investigated by asking, "Have you ever seriously considered attempting suicide?"
- (2) Suicide planning was investigated by asking, "Have you ever made a plan about how you would attempt suicide?"

(3) Suicide attempts were investigated by asking, "Have you ever attempted?" The dependent/outcome variable in this study was suicidal behaviour, which had a binary outcome of 'yes' or 'no'.

Suicidal ideation and plan assessment variables had a binary "yes" or "no" response option. Any "yes" response to the question "Have you ever seriously considered trying to commit suicide" was considered a suicidal ideation. Any "yes" response to the question "Have you ever made a plan about how you would attempt suicide?" was deemed to be a suicide plan. The response for "suicide attempt" was broken down into five categories based on frequency: "none," "once," "two- or three times," "four or five times," and "six or more." Those who responded "none" were regarded as giving a "no" response for having attempted suicide, while those who replied "once" or more were regarded as giving a "yes" response.

### Section 3: Cyberbullying Victimization and Perpetrators

The European Cyberbullying Intervention Project Questionnaire (ECIPQ) was used to determine the prevalence and roles of cyberbullying involvement.<sup>[9]</sup> For example, "Someone threatened me through texts or online messages," "I have created a fake account, pretending to be someone else," "Someone posted embarrassing videos or pictures of me online," and "I excluded or ignored someone in a social networking site, internet chat room, or a messenger app" are some of the 22 items on this scale, 11 for victimisation and 11 for perpetration. By using the previous two months as a reference period and a Likert scale with five response options: 0 = never, 1 = once or twice, 2 = once or twice a month, 3 = about once a week, 4 = more than once a week were used to record the frequency of cyberbullying. The Cronbach alpha coefficient obtained in the present study was .78 for both the victimization scale and the perpetration scale.

#### 2.5 Data collection

A self-administered, online questionnaire (Google Form) was used to collect the data. The questionnaire was composed of 30 questions; after getting permission from both the parents and the students, the Google form was sent to the chosen students through school counselors via either WhatsApp or email.

#### 2.6 Statistical Analysis

IBM SPSS software version 22 was used to collect and analyse the data. To find frequency and percentages, descriptive analysis was used. The Chi-square test was used to find the association between cyberbullying and suicidal thoughts. A p-value of less than 0.05 was considered statistically significant.

### 3. Interpretation of results

#### 3.1 Socio-demographic

A research survey was conducted on 400 participants aged 16-18 years, with 51% male and 49% female. Most respondents were day scholars, with 85% belonging to this group. The survey also included students from three different classes: 10th, 11th, and 12th standard. Most students belonged to standard 11 with 69%, while the percentage of 10th and 12th standard students was 9% and 22%, respectively. Parents of 88.1% of participants were married and living together, while 2.2% were married but not living together due to job responsibilities, and 4.4% were divorced. A small fraction of teenagers had separated parents. (Table 1)

**Table 1: Socio-demographic and other characteristics of the respondents (N=410)**

Variables	n (%)
<b>Gender</b>	
Male	208(51%)
Female	202(49%)
<b>Age (years)</b>	
16	37 (9)
17	283(69)
18	90(22)
<b>Place of stay</b>	
Hosteller	62(15)

Day scholar	348(85)
<b>Standard</b>	
10 <sup>th</sup>	37(9)
11 <sup>th</sup>	283(69)
12 <sup>th</sup>	90(22)
<b>Parental marital status</b>	
Married and living together	361(88.1)
Married but not living together (working elsewhere)	9(2.2)
Divorce	18(4.4)
Widow (Father or mother who has passed away)	15(3.6)
Separated (Parents not living together)	7 (1.7)
<b>Having a social media account</b>	
Yes	377(91.9)
No	33(8.1)
<b>History of substance abuse</b>	
Yes	2(0.6)
No	408(99.4)

Cyberbullying was found to be prevalent on digital messaging platforms like social media, with 91.9% of teens having social media accounts. The survey also revealed that 99% of respondents did not have a history of substance abuse, while only 1% had a history. The results highlight the need for increased awareness and support for teenagers dealing with substance abuse.

### 3.2 Prevalence of cyberbullying, cyber victimization, and suicidal behaviours

The survey revealed that 78.7% of teens believe cyberbullying is not prevalent, while 21.3% have experienced it. 90% of respondents have not been victims due to cyber-victimization trends, while 9.3% have become victims. 62 teens reported experiencing suicidal behaviors, while 348 respondents did not witness any. The result (Table 2) of the research found that cyberbullying was experienced by a small population of teens, and a very small fraction became victims. Out of those who become cyber victims, a very small percentage experienced suicidal behavior. The results suggest that cyberbullying is prevalent among a small population of teens, and a small percentage of them have experienced suicidal behaviors.

**Table 2: Prevalence of cyberbullying, cyber victimization, and suicidal behaviour among the respondents (N=410)**

Variable	n (%)
<b>Cyberbullying</b>	
Yes	87 (21.3)
No	323 (78.7)
<b>Cyber-victimization</b>	
Yes	38 (9.3)
No	372 (90.7)
<b>Suicidal behavior</b>	
Yes	62 (15.1)
No	348(88.9)

### 3.3 The medium used for victimization and cyberbullying

In the next table (Table 3), the medium that is exclusively used for cyberbullying was explored, and as per the survey results three different mediums were found that had played a very important role in cyberbullying and cyber victimization. The three different mediums that were identified include text messages, multimedia messages, and apps. Total cyberbullying and total cyber victimization that were found in the survey were around 38 and 87 respectively. When it comes to text messages as a medium which is used for cyberbullying it was supported by 7 respondents while 31 didn't agree with it. When it comes to victimization text messages were agreed by 47 respondents while 40 respondents hadn't agreed. Multimedia as a platform that is used as a medium for cyberbullying has been agreed by almost 24 respondents while 14 have said that it was not. When it comes to the cyber victimization rate it has been agreed by almost 50% of the respondents who were reported as cyber victims while 38 respondents said that it was not.

A wide variety of items are included in a research survey and this includes social media platforms like Meta, WhatsApp, Instagram, and Twitter. Due to these reasons, the threat of cyberbullying in social media platforms and cyber victimization is quite high across multimedia messaging platforms. The last medium was asked by the respondents who had either become victims of cyber-attacks or cyberbullying. Among the cyber victimization respondents, 50 of them said that yes apps are responsible for their cyber victimization while 37 respondents did not agree to it. When it comes to the response of those teens who have witnessed bullying just 7 of them have said that apps are responsible while just 3 have said no it did not. Trends of medium explicitly used for cyber-bullying and cyber victimization are pretty much clear. From the overall analysis, it can be said that apps and multimedia text messages are highly responsible for cyberbullying cases and cyber victimization cases. The value has been given in the third table with the help of a chi-square test analysis and as per the getting the value of statistically significant it is required the value of p is required to be less than 0.05. As per the p-value analysis in Table 3, it can be said that text messages and apps are statistically significant while the value of multimedia messages is not significant statistically.

**Table 3: Medium used for cyberbullying and victimization**

Medium used	Cyber Victimization(n=87)	Cyber Bullying (n=38)	p-value
<b>Texting Messages</b>			
Yes	47 (37.6%)	7 (16.4%)	< 0.01*
No	40 (49.4%)	31 (21.6%)	
<b>Multimedia messages</b>			
Yes	49 (50.9%)	24 (22.1%)	0.475
No	38 (36.1%)	14 (15.9%)	
<b>Apps</b>			
Yes	50 (39.7%)	7 (17.3%)	< 0.01*
No	37 (47.3%)	3 (20.7%)	

\*p<0.05- statistically significant (chi-square test)

### 3.4 Association between cyber victimization and cyberbullying with the behaviours of suicides

In Table 4, an association has been built around cyber-victimization and cyber-bullying about suicidal behaviours among the respondents. The analysis has been divided into six different categories that are "age, gender, standard, parent's marital status, divorce, cyberbullying, and cyber-victimization." Out of the total respondents who were 410 around 348 have not experienced suicidal behaviour while 62 of them do experience suicidal behaviour.

## **Gender**

On a gender basis around 45.1% of the male population reported suicidal behaviour tendencies while the total female respondent was around 54.9% who said that yes, they had witnessed some kind of suicidal behaviour. The percentage share of those males who did not report any suicidal behaviour is around 51.7% while females are around 48%.3%. Thus, from this, it can be configured that suicidal behaviour is more prevalent among females as compared to males due to their higher percentage share.

## **Standard**

Students from three different standards were surveyed and those belonged to the 10th, 11th, and 12 standards. Those students who were from 11th standard have reported the highest suicidal rates with a percentage share of 83% while the percentage share of class 10 students is lowest with around 8%. Those students who were studying in the class 12 standard have also reported lower percentages with around 9%. Hence, from the above analysis, it can be said that those students who were studying in the class 11th standard are vulnerable to suicidal thoughts. Meanwhile, the students who were studying in the class 12th standard were least vulnerable to suicidal thoughts.

## **Marital status**

The marital status of the teenagers has been divided into two different types of scenarios; in scenario 1 the parents will be married and they will be living happily together. On the other hand, those parents who are married but not living together have been signified with the help of scenario 2. Those teenagers whose parents are married and happily living together have reported 21% suicidal behaviours while in scenario 2 the percentage for suicidal behaviour was around 14.5%. Thus, from the above analysis, it can be said that those teenagers who are living with married parents together are less vulnerable to suicidal thoughts. Even though the suicidal behaviours reporting percentage is higher in the scenario as compared to scenario 2 the percentage of the population for scenario 1 who hadn't reported any suicidal behaviour was around 90%. Thus, from this, it can be configured that those teenagers who are living with their unseparated parents are less vulnerable to suicidal thoughts.

## **Divorce**

In Table 4 divorce has been divided into two different categories; the first category is for those who were widows or widows. The second category was those parents who were completely separated through courts. Those teenagers who have lost their parents had reported 24% suicidal behaviour while those who were separated have reported around 11.3%. From this, it can be understood that teenagers who have lost their parents are more vulnerable to suicidal thoughts as compared to those students whose parents have separated legally.

## **Cyberbullying**

Now suicidal behaviours among these teenagers have also been covered based on their mutual experiences regarding cyberbullying. In a research survey around 325 respondents said that they haven't experienced any kind of suicidal behaviour due to cyberbullying while 47 responded in the affirmative regarding the suicidal behaviours. On the other hand, 24% of the respondents which is around 15 respondents have said that cyber-bullying was not the reason for their suicidal thoughts. Hence, from the above analysis, it could be understood that cyberbullying events ended up in suicidal behaviours among the youth.

## **Cyber victimization**

The second part from which the suicidal behaviours among the youth are analysed includes cyber victimization or those who have become the victims through cyber. In the research survey around 27.4% of those respondents who were victims of cyberbullying said that yes, they do witness suicidal thoughts while those who were having suicidal thoughts due to some other reasons were 72% of the total suicidal behaviour sample. Thus, from the above analysis, it could be said that cyber victimization is less vulnerable but the cyberbullied are more vulnerable to suicidal behaviours.

**Table 4: The Association Between Cyberbullying and Cyber victimization with Suicidal Behaviour among the**

Respondents			
Variable	Suicidal behavior (n= 62)	No Suicidal behavior (n=348)	p-value
<b>Gender</b>			
Male	28(45.1%)	180(51.7%)	0.341
Female	34(54.9%)	168(48.3%)	
<b>Standard</b>			
10 <sup>th</sup>	5(8%)	32(9.2%)	<b>0.031*</b>
11 <sup>th</sup>	51(83%)	232(66.6%)	
12 <sup>th</sup>	6(9%)	84(24.2%)	
<b>Parents marital status</b>			
Married and living together	13(21%)	316(90.8%)	<b>&lt; 0.01*</b>
Married but not living together (working elsewhere)	9(14.5%)	11(3.2%)	
Divorce	18(29%)	6(1.7%)	
Widow (Father or mother who has passed away)	15(24.2%)	8(2.3%)	
Separated (Parents not living together)	7(11.3%)	7(2%)	
<b>Cyberbullying</b>			
Yes	47(75.8%)	325(93.4%)	<b>&lt; 0.01*</b>
No	15(24.2%)	23(6.6%)	
<b>Cyber victimization</b>			
Yes	17(27.4%)	306(87.9%)	<b>&lt; 0.01*</b>
No	45(72.6%)	42(12.1%)	

**\*p<0.05 statistically significant (chi-square test).**

#### 4. Discussion

The prevalence of cyberbullying, cyber victimization, and suicidal behaviour among teenagers was examined in this study, along with the relationships between these variables and demographic characteristics. The results highlight the serious effects that cyberbullying and cyber victimization have on the mental health of adolescents. The study found that among teenagers, cyberbullying and cyber victimization are significantly more common. Of the respondents, about 21.3% said they had been the victim of cyberbullying, and 9.3% said they had been the victim of cyber victimization. These results align with earlier studies that have demonstrated the widespread prevalence of cyberbullying among young people. <sup>[10]</sup>

The study discovered a significant relationship between cyberbullying cyber victimization and suicidal thoughts and actions. Adolescents who were victims of cyberbullying were more likely to report suicidal thoughts and actions than those who did not. These results are consistent with previous research showing a strong connection between cyberbullying and negative mental health consequences, such as suicide ideation and actions. <sup>[11,12]</sup> Online platforms' anonymity and constant accessibility may worsen the psychological effects of bullying and raise the risk of suicidal behaviour in those who are already vulnerable.

Suicidal ideation and behaviors were linked to several demographic variables. Remarkably, compared to adolescents whose parents were married, those whose parents were divorced, widowed, or separated were more likely to report suicidal behavior. This result is in line with earlier research emphasizing the

impact of family structure on the mental health of adolescents.[13] Furthermore, compared to students in other grades, those in the 11th grade were more likely to report suicidal behavior. A list of students who have suicidal thoughts was made, and their teachers, parents, or guardians were informed to seek a psychiatrist consultation.

Although the study offers useful data, there are certain limitations. The cross-sectional design limits causal inference, and self-report measures may be subject to bias. Additionally, the sample may not be representative of all adolescents, as it was drawn from a specific geographic area or educational institution.

### 3. Conclusion and future scope

The study emphasises the need for comprehensive plans to stop cyberbullying and enhance mental health in the digital age. These plans should include teaching people how to use technology, making mental health resources easy to find, and encouraging a culture of kindness and respect online.

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