

Role of Cyber Bullying, Cyber Victimization in Self-Esteem Among Adolescence

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Abstract

Traditional bullying and victimization are being slowly converted through electronic media in the 21st Century. It occurs on mobile phones, computers, and social media, through their communication ways. The globe and universe are also being covered by electronic resources daily. Mobile phones are one of them that are frequently involved in human life. Mobile phones are resources for all necessary and unnecessary work in human life. Unnecessary work done by perpetrators may be supported and contribute to cyber-bullying that costs human lives. Current findings are storming to all the researchers that web human culture is the center of both cyber-bullies and victims. Cyber-bullies and victims have different dimensions on different factors during different age groups. In this study, a group of cyber-bullies and victims have been shown to differ in adolescence about self-esteem. Adolescence is increasingly involved in cyber-bullying and cyber victims according to previous research. This study examined the prevalence and significant relationship of cyber-bullying/victims and how they are related to one's sense of esteem. The convenience-based sample was used of 150 young adolescents with an equal ratio of male-female participants (50% being females and males between 16-27 years). Results found that cyber-bullying and victims are strongly associated with low self-esteem. Gender and marital status are significantly correlated with cyber-bullying and self-esteem. These findings suggest that cyber-bullying research should investigate all student levels in a longitudinal and cross-sectional manner to determine the deep factors of cyber-bullying and self-esteem. Future perspectives and limitations are covered.

Keywords: Adolescence, Cyber-Bullying, Cyber Victim, Self-esteem.

Introduction

Bullying is like a tiny seed that may grow through negative environmental elements. It has two opponents' physical and mental wars by one group or more than two groups. Its existence occurred from their existence as human beings on earth. You may imagine your previous feelings about human-human controversies or human-animal wars. You can find the antecedents of bullying and their impact on human living. Humans and animals both pay off mental, and physical costs. Therefore, we can verify that bullying always makes people aggressive, dominant, egoistic, and harmful to everyone or harmful to social algorithms. Along with the present, bullying gradually has changed in its ways, nature, and properties. Bullying which was identified by researchers as traditional bullying is converted into cyber-bullying through new ways. It Means, the prevalence of bullies through electronic communication devices. Nowadays, bullying has fully changed its operational form

and human cost. Above all background summarized bullying as a prevalent form of violent, dominant, and deliberate behavior in a circumstance, people, and the object of a directionless, senseless power against a victim unable to find himself as a safeguard (1). Traditional bullying tracked new ways of interaction through the internet & electronic devices, known as cyber-bullying (2, 3). As many definitions have been made and extracted described as "An aggressive, intentional act carried out by a group or individual, using electronic forms contact, repeatedly and over time against a victim who can't easily define him or herself" (4). The definition of cyber-bullying is varied, debated, and a cultural coloring phenomenon. Where all forms of the sample are also differentiated. The enormous advances in digital technologies are starting to beneficial and substantial harm (5).

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Researchers also defined cyber-bullying as sending or publishing offensive or intimidating texts, images, or videos online without authorization, with the wrong intent to harass, threaten, or cause harm other to individuals (6). Many huge longitudinal & cross-sectional studies explain that bullying through mobile devices & other internet applications is associated with harming issues for adolescents (7-9). This harming creates psychological and emotional distress in cyber victimization which is identified by previous studies (10, 2). Several theoretical frameworks can be used to explain the relationship between victimization, self-esteem, and cyber-bullying. According to Bandura's Social Learning Theory, people pick up behaviors by watching and copying what other people do. Cyber-bullies may mimic aggressive behavior they witness in their surroundings, and the victims may absorb criticism that lowers their self-esteem (11). Individuals assess themselves by comparing them to others, according to Festinger's Social Comparison Theory. Cyber-bullying victims sometimes experience low self-esteem as a result of their negative peer comparisons (12). The Cognitive-Behavioral Theory postulates that emotional and behavioral problems may arise from unfavorable thought patterns and beliefs. One way that cyber-bullying affects self-esteem is by encouraging false self-perceptions and unfavorable thought habits (13). Some numerous technological or digital platforms, such as social media, email, instant messaging apps, text messaging, images or videos captured with a digital device or camera, chat rooms, forums, and many other kinds of websites, can be used for cyber-bullying (14). In this research, cyber-bullying categories into sub-parts simply cyber-bullies and cyber-victims. But cyber-bullying has different typologies too based on involvement in cyber-bullying four main types are: cyber-bullies, cyber-victims, cyber-bully/victims, and non-involved (15). Many studies report the largest group of our cyber victims have never been bullied by others and the second group is cyber bullying who have been never victims but are strongly involved in bullying types of negative behavior (16). Previously identified a large overlap group named cyber-bullying & cyber-victimization (a single factor) and a major group also emerged as non-involved those who have

neither cyber-bullied nor been cyber-victimized (17). If you analyze sample-based affected data globally, ranging from 10-72% of cyber-victims of cyber-bullying. Before the discussion of the main variable, we focus on demographic variables based on previous studies. Gender-based studies show that traditional bullying hurts boys as compared to girls (18). Some studies do not show gender (male and female) disparities for cyber-bullies however despite this found out that males are more affected by cyber-bullying (1) and girls as cyber-victims (4). One another study found males are more prone to self-acknowledge as cyber-bullies than females (19). Some hypothetical theories have developed to verify that girls have a higher chance of being more likely to cyber-bullies than boys about cyber-bullying (20). In contrast to this hypothesis, several researches has found that males are more frequently involved in cyber-bullying than others (21). Generally seen, some previous researchers have reported that boys respond more aggressively as compared to girls, however, girls suffer more compared to boys (22). Several studies have not found any gender differences in victims and bullying (23, 24). Some researchers have argued that gender differences depend on the forms of cyber-bullying that are studied (25). The above findings revealed that male and female differences did not clear the gender differences or they may not exist. The lack of consistency among studies on gender disparity in cyber-bullying is nonetheless because the pivotal role of the analysis of gender in cyber-bullying is diverse (2). According to the research on bullying and self-esteem, bullying victims typically have lower self-esteem as compared to non-victims. The precise consensus and clarity on the exact reason behind this relationship. The experience of being victimized may lower self-esteem, or people with lower self-esteem are more likely to be singled out for victimization (26). Interestingly, there is less consistency between bullying and self-esteem. Studies have revealed that bullies typically have lower and higher self-esteem than non-bullies (27-29). Additionally, previous researches show that the self-esteem of bullies and non-bullies is not significantly different (30, 31). Research has repeated that the relationship to self-esteem is less common among bullies as compared to among victims, despite the fact the

direction of the relationship between those is not concluded by the literature (32). Youngsters who played virtual video games more often had poorer self-esteem as compared to youngsters who played less, according to a new study on the relationship between information technology and self-esteem (33). Furthermore, the relationships between normative beliefs, school atmosphere, and self-esteem were investigated (34). Their study's findings demonstrated that higher self-esteem is a strong indicator of bullying perpetration in schools with a hostile environment. In contrast, a strong sense of self-worth suggested a decreased issue with aggressive behavior in schools with a good atmosphere. According to other research, young people who experience cyber-bullying are more likely to possess psychological discomfort and lower self-esteem (35). Other findings, for example, self-esteem as an important predictor of bullying, emotional intelligence, and spiritual, personal, and social well-being (36). Lowered self-esteem is common among cyber-bullying victims, and because of their increased vulnerability, this might prolong victimization (37). The study illustrated the serious emotional cost and its effect on self-esteem by showing that being a victim of cyber-bullying increases depression and suicidal thoughts (38). The cross-sectional study, which concentrated on female nursing students at universities, found that people with lower self-esteem were more prone to engage in cyber-bullying or fall victim to it (39). The present literature evaluation highlights the incomplete explanation for the correlation between cyber-bullying and self-esteem. The present study intends to fill this vacuum by examining the protective function of self-esteem in lowering the risk of cyber-bullying in an Indian adolescent population. More specifically, we looked at how participant's usage of the Internet may be more prone to participate in deviant behaviors like cyber-bullying if they had poor self-esteem. Cyber-bullying victims had greater rates of suicidal thoughts and depression, which is strongly associated with low self-esteem (37). The self-esteem of those who are victims of cyber-bullying is notably lower than that of those who are not (38). Older teens and females were particularly impacted, with notable effects on self-esteem (39).

Hypothesis

The review of the literature provides a broader perspective for developing hypotheses. The following hypotheses based on the review of literature were framed for the proposed study:

Cyber-bullying perpetrators and Cyber victimization would be negatively associated with self-esteem.

Cyber-bullying (overall) would be negatively correlated with self-esteem.

Females would be negatively correlated with Cyber-bullying and Cyber victimization rather than male.

There would be the differential impact of cyber-bullying, cyber victim, and cyber-bullying (overall) on self-esteem.

Methodology

A self-prepared questionnaire with demographic questions, reliable and validated cyber-bullying, and a self-esteem questionnaire was used to measure their responses by convenience sampling method. This study was conducted on Banaras Hindu University adolescent students from different departments of the university. The study highlighted the linkage between cyber-bullying behavior and self-esteem.

Participants

The current study involved 150 Participants who were university-level male students ($n = 75$, 50%) and women ($n = 50$, 50%) aged from 16 and 27 years ($M = 21.77$, $SD = 2.19$). Males' mean age was 15.08 years ($SD=2.25$) and females' mean age was 15.23 years ($SD=2.18$). Some respondents did not answer their demographics however they were included in the final data analyses because all their responses fulfilled the responses correctly. The participants were assigned from Indian Banaras Hindu University located in Uttar Pradesh, India. There are no statistically significant differences among males ($M=15.08$, $SD= 2.25$) and females ($M=15.23$, $SD=2.18$) with regards to age were found ($t = (431) = -0.696$, $p > 0.05$). The Indian education system has variations in graduation enrolment by age but in this study, any participants aged 17 were considered to be young adolescents due to their admission to further their colleges. Respondents have participated mainly via an online survey form, social networking website, and printed questionnaire booklet.

Revised Cyber Bullying Inventory (R-CBI Scale)

This scale was invented and revised the scale as named RCBI 28-item self-report inventory with a 4-point Likert scale. This scale is divided into two sub-scales (bully scale and victim scale) which require the participant to respond during the previous twelve months (40). Both scales have an equal total of fourteen items. Items included in the questionnaire related to aggressive online behavior through internet media, and computers. The RCBI has found .92 Cronbach coefficients for the bullying and .80 for the victim scale (41). For the current study sample, the Bullying scale was scored to have a Cronbach alpha coefficient of .91; while the Victim scale had a coefficient alpha of .87.

Rosenberg Self-esteem Scale (RSES)

This scale was invented with ten items which is commonly used to measure self-esteem in different research settings. This scale is based on a 4-point Likert that has reverse coding items whose total score minimum of 10 and a maximum of 40 specialized for adolescents. By the author, it has been found to have Cronbach alpha ranging from .84 to .95 (42, 43). For this study, the Cronbach alpha coefficient was determined to be .81.

Procedure

For better responses, it is necessary that build and establish a simple, secure, and powerful rapport with the respondents. Participants were able and free to withdraw from this study without any reason at any moment during the process of the information collection. Respondents were free to complete the questionnaire by their location and there was no time bind for completion but requested to complete the questionnaire as soon as possible. All responses are kept anonymous, and the questionnaire is utilized for this study purpose only.

Results

In the present investigation, the cyber-bullying and self-esteem scale was administered to 150 students studying at Banaras Hindu University, Uttar Pradesh, India to check the reliability of the scale. This scale is adopted by researchers in the Indian version as per accepted guidelines. For this purpose, item analysis was done. After the item analysis, all 28 items of cyber-bullying which were divided into two subscales: cyber-bully with 14 items and cyber victim with 14 items and 10 items of self-esteem (unidimensional) were retained in this study.

Table 1: Reliability for Cyber-Bullying and Self-Esteem (Dimension Wise and Overall) With Initial Item

Descriptive Variables	Cyberbullying		Self-esteem	
	Cyber Victim	Cyber Bullying	Overall	Unidimensional
Cronbach's Alpha	.862	.901	.904	.804
Cronbach's Alpha Based on based on standardized items	.877	.911	.912	.802
Internal Consistency Level	Very Good	Excellent	Excellent	Very Good
N of Items	14	14	28	10
Mean	20.857	20.040	40.886	25.600
SD	7.142	7.815	12.558	6.163
Variance	51.02	61.086	157.725	37.987

Table 1 shows the overall frequency of cyber victimization behaviors as reported by all respondents; while Table 2 presents the total frequency of reported cyber-bullying behaviors. The overall frequency of cyber-bullying behaviors

in response to "How often have the instances described happened to you?" is 0 for Never; 1 for Once; 2-3 for Two or Three Times; >3 for More than Three Times. Cyber victimization behaviors that were reported less included: stealing

personal information, threatening online forums, insulting online forums, sharing private Internet conversations, making fun of comments, and publishing online photos without permission. Some victim behaviors that were not recorded or rarely reported included stealing computer nicknames, email access, and misleading. Some other victim behaviors reported higher included: excluding online forums, posting fake photos, and making fun of comments. The total frequency of cyber-bullying behaviors in response to “How often have you done the instances described to

others?” 0 for Never; 1 for Once; 2-3 for Two or Three Times; >3 for More than Three Times. In the Table 3 cyber-bullying behavior was reported as high including included: online forums, making fun of online comments, and misleading others by pretending to be others. Some other bullying behaviors that were reported less included: stealing personal information, posting fake photos, making fun of comments, sending hurtful messages, and publishing online photos.

Table 2: Total Frequency of Cyber-Bullying (Victims) as Recorded by All Respondents to Know Their Prevalence

(Item Descriptive) Cyber-bullying (Bullying) Items	0	1	2-3	>3	Mean	SD	N
Item 1	124	9	8	9	1.347	.836	150
Item 2	116	21	9	4	1.340	.713	150
Item 3	121	17	6	6	1.313	.734	150
Item 4	115	24	5	6	1.347	.733	150
Item 5	95	21	16	18	1.713	1.071	150
Item 6	125	12	7	6	1.293	.738	150
Item 7	108	23	12	7	1.453	.832	150
Item 8	75	24	18	33	2.060	1.228	150
Item 9	112	23	6	9	1.413	.829	150
Item 10	124	12	9	5	1.300	.731	150
Item 11	116	17	11	6	1.380	.792	150
Item 12	115	21	5	9	1.387	.819	150
Item 13	116	15	9	10	1.420	.877	150
Item 14	126	14	3	7	1.273	.723	150

Some victim behaviors that were not reported or rarely recorded included: stealing computer nicknames and email access. Cyber victimization and cyber-bullying behavior reported were classified into four categories Never (0), Once (1), Two or three times (2-3), and More than three times (>3). The most frequent behaviors recognized by both the victim and bullying group were: online insult, online exclusion, being and making fun online, sharing private internet conversations, sending hurtful text messages, and publishing online photos without permission. Table 4 presents the results of the independent t-test which was calculated to compare the scores of age, marital status, cyber-bullying (dimensions and overall), and self-esteem of male and female

adolescents. The results revealed a significant difference in mean scores ($t(150) = 2.30$; $p < .05$) in cyber victims for male students ($M = 1.58$, $SD = .57$) in comparison to female students ($M = 1.39$, $SD = .42$). This result indicates that males are more cyber victims of cyber-bullying than females. Also, there was a significant variance in mean scores ($t(150) = 2.54$; $p < .05$) in cyber-bullying overall (cyber-bullying and cyber victims) for male students ($M = 1.55$, $SD = .47$) in comparison to female students ($M = 1.36$, $SD = .40$). This result indicates that males are more cyber-bullying (cyber-bullying and cyber victims) than females. The results of the correlation analysis of demographic variables, cyber-bullying, and all its dimensions with self-esteem (uni-dimension) are presented in the following:

Table 3: Total Frequency of Cyber-Bullying Behavior as Reported by All Respondents to Know Their Prevalence

(Item Descriptive) Cyber-bullying (Victim) Items	0	1	2-3	>3	Mean	SD	N
Item 1	112	15	17	6	1.447	.848	150
Item 2	120	20	8	2	1.280	.625	150
Item 3	106	21	14	9	1.507	.896	150
Item 4	115	18	9	8	1.400	.828	150
Item 5	62	39	27	22	2.060	1.089	150
Item 6	112	14	12	12	1.493	.947	150
Item 7	116	16	14	6	1.413	.821	150
Item 8	64	21	23	42	2.287	1.276	150
Item 9	120	10	12	8	1.387	.850	150
Item 10	123	16	8	3	1.273	.654	150
Item 11	116	20	8	6	1.360	.763	150
Item 12	116	20	9	5	1.353	.744	150
Item 13	112	25	9	4	1.367	.719	150
Item 14	129	15	0	6	1.220	.644	150

Table 4: Independent Sample t-test Analysis was Performed on the Mean Scores for Age, Marital Status, Cyber-Bullying, And Self-Esteem in the Males (N=75) and Females (N=75)

Descriptive Variables	Male (75)		Female (75)		t-ratio	p
	Mean	SD	Mean	SD		
Demographic						
Age	21.65	2.35	21.88	2.03	-.632	.529
Marital Status	2.01	.25	1.93	.25	1.91	.057
Cyber-bullying (Predictor)						
Cyber Victim	1.58	.57	1.39	.42	2.30	.022*
Cyber Bullying	1.52	.60	1.34	.49	1.96	.052
Cyber-bullying Overall	1.55	.47	1.36	.40	2.54	.028*
Self-esteem (Criterion)						
Self-esteem	2.54	.50	2.57	.71	-.238	.812

Table 5: Means, SD, Variance, and Inter-Correlations with All Variables Used in the Study

Descriptive Variables	1	2	3	4	5	6	7	Mean	SD	Variance
Age	1							21.7667	2.19339	4.811
Gender	.052	1						1.5000	.50168	.252
Marital Status	-.094	-.156	1					1.9733	.25768	.066
Cyber Victim	-.025	.186*	-.024	1				1.4890	.51019	.260
Cyber Bullying	.089	-.159	.189*	.409**	1			1.4314	.55827	.312
Cyber Bullying (Overall)	.041	-.205*	-.132	.823**	.855**	1		1.4602	.44853	.201
Self-esteem	.068	.020	.116	-.209*	-.035	-.140	1	2.5600	.61633	.380

* $p < 0.05$. ** $p < 0.01$. **

Results presented in Table 5 reveal that cyber victim was found significantly negatively associated with gender ($r=-.186, p<.05$) with the largest variance. Cyber-bullying was also found significantly negatively associated with marital status ($r=-.189, p<.05$) and positively associated with the cyber victim ($r=.409, p<.01$). Cyber-bullying overall was also found significantly negatively associated with gender ($r=-.205, p<.05$), significantly positively associated with cyber victim ($r=.823, p<.001$) and positively correlated with cyber-bullying ($r=.855, p<.001$). Finally, self-esteem was found significantly

negatively correlated with the cyber victim ($r=-.209, p<.05$).

Further hierarchical stepwise regression analysis has been computed to ascertain the relative importance of all two dimensions of cyber-bullying in predicting self-esteem (unidimensional). Following the recommendations hierarchical stepwise regression analysis has been computed for self-esteem (unidimensional) (44). The summary of the findings of the hierarchical stepwise regression analysis has been reported in the following:

Table 6: Result of Hierarchical Stepwise Regression Analysis for Cyber-Bullying (Sub-Scale) as A Predictor Variable and Self-Esteem (Unidimensional of Self-Esteem) as A Criterion Variable and Demographic Features Control Variables

Model	Variables	Self-esteem	
		Step 1 Beta (β)	Step 2 Beta (β)
Simultaneous regression (Step1)	Demographic variables (Control Variables)		
	Age	.078	.074
	Gender	.036	-.004
	Marital Status	.129	.117
Sub-scale of Cyber-bullying (Cyber-bullying and Cyber Victim) as predictor variables			
Stepwise regression (Step2)	Cyber Victim		-.205*
R		.144	.248
R ²		.021	.061
R ² change		.021	.040
F change		1.036	6.256*

a- Step 1 degree of freedom= 3, 147; Step 2 degree of freedom = 4, 146, ** $p<.01$, * $p<.05$

In hierarchical stepwise regression analysis, demographic variables (age, gender, and marital status) were entered in the first step and all the dimensions of cyber-bullying were entered in the second step. It is visible from the results presented in Table 6 that cyber victims emerged as significant predictors of self-esteem in adolescence. Result values reveal that cyber victims were found to be significantly negatively associated with self-esteem ($\beta=-.206, p<.05$) of adolescents and it explains 4.01% of the total variance in explaining self-esteem.

Discussion

Without standardization of scale items, we can't assume any research in generalization form in the research globe. In this perspective, Cronbach alpha value is calculated for both scales for item analysis. The first scale used in this study is cyber-

bullying with 28 items which has two sub-scales named cyber-bullying with 14 items and cyber victim with 14 items. This scale generated three Cronbach alpha values .911 for cyber-bullying overall, .912 for cyber-bullying, and .877 for cyber victim. If the alpha coefficient range is greater than 0.9 then it would be internal consistency 'excellent' and if the alpha value range found between 0.8 to 0.9 then it would be called 'very good' internal consistency level for scale. In this study, both scales found excellent and very good levels of internal consistency (45).

The present study aimed to analyze the association between cyber-bullying and self-esteem in adolescent university students. As expected, the categorization of individuals into three cyber-bullying groups (cyber-bullying, cyber victim, and cyber-bullying overall) revealed prevalence rates. Specifically, groups consisting of cyber victims' mean value (20.857) and cyber-bullying (20.040) remained relatively small

compared to the overall cyber-bullying. The cyber-bullying and victims mean value (40.886) was identified as the largest group in this study. These were all those individuals who had engaged in cyber-bullying and targeted themselves. The implication is that the properties of online media, and thus cyber-bullying, allows individuals who would not have the social power to become more assertive through mobile or other electronic media (46).

Event rate always matters for their existence which is associated with the frequency and time. It fluctuated from time to time by situation, environment, and person. Their prevalence decided their importance in all human things separately. In this study also cyber victims and cyber-bullying have scattered frequency rates with their time zone in the university student sample. The cyber victim frequency rate is higher than cyber-bullying on different items. The cyber victim behaviors reported higher as excluding online forums, posting fake photos, and making fun of comments. These responses indicate that exclusion from online social media platforms is hurtful and impactful to victims. It may originate in victims' low self-confidence, inferiority complex, and other psychological weaknesses. The second item reported higher is posting a fake photo on the social media platform of the victim. Posting fake photos on social media is common among bullies they don't know that act is wrong or right by the laws. Currently, morphed photos of people are being viral by bullies on social media because it makes victims laughing stock by perpetrators or people. The third largest behavior reported by victims is making fun of comments. Currently, social media is being on demand to fulfill user entertainment time and is created by IT professionals as like mushrooms. If you observe in real life on social media you will find that more than 60 percent of people make fun of comments or posts which is wrong. Many times reported by newspaper agencies that comments are being caused by violence and all other negative activity.

Cyber-bullying prevalence, exclusion from online forums are higher as reported by respondents. This item was also reported by victims higher in the cyber victim sub-scale and the second one is making fun of comments also was reported by bullies which is also common in both scales. The

third largest item reported by bullies is misguiding by pretending to be another gender (male and female) which is different in the cyber-bullying scale. In this item, bullies pretend to others who are male or female to talk badly and intentionally. Because of privacy policies social media platform gives the option to user so they can hide a personal detail which causes misuse by users in this form.

Gender is one of the main issues in this research which is involved more in both conditions and which have high and low self-esteem. For this purpose independent sample t-test was done to compare the scores of age, marital status, cyber victims, and cyber-bullying overall of male and female respondents. As the above t-test, only cyber victims and cyber-bullying overall found significant differences in males and females. Results indicated that males are more frequently victims of cyber-bullying as compared to females. Similarly, males are more involved in cyber victims and cyber-bullying as compared to females.

Cyber-bullying behavior was reported as high including included: exclusion from online forums, making fun of posted comments, and misguiding others by pretending to be others. Some other bullying behaviors that were reported less included: stealing personal information, posting fake photos, making fun of comments, sending hurtful messages, and publishing online photos. Some victim behaviors that were not identified or rarely reported included: stealing computer nicknames and email access.

As hypothesized the result of the correlation analysis between cyber-bullying and self-esteem and its dimension indicate that cyber-bullying (overall)) was found to be significantly negatively correlated with gender (demographic variable), and significantly positively associated with cyber victims and cyber-bullying (sub-scale of cyber-bullying) by self. Cyber victim (sub-scale of cyber-bullying) was found to be significantly negatively correlated with gender, significantly positively associated with cyber-bullying, significantly positively associated with cyber-bullying (overall), and significantly negatively associated with self-esteem (one-dimensional).

The reason behind the poor self-esteem could be a higher level of stress, anxiety, or depression and all these things may be significantly associated

with the victim's personality. In the present study, we found that university and college students experience cyber-bullying and as a result, display a poor level of self-esteem. Similarly, the findings of hierarchical stepwise regression analysis suggest that all the dimensions of cyber-bullying, viz., and cyber victim were significantly negatively associated with self-esteem. Cyber-bullying is negatively associated with psychological self-esteem. In this context, it can be abstracted that cyber-bullying has a detrimental effect on human self-esteem and well-being.

This study aimed to investigate, impact, and explore cyber-bullying (cyber-bullying and cyber victim) on self-esteem among university adolescents. Standardized and psychometrically potent scales were used to test various hypotheses in a young adolescent population. The result found that cyber victims had found significant negative correlation with self-esteem among respondents. Furthermore, gender differences revealed that males are more affected by cyber-bullying than females. Sub-scale cyber-bullying was found to indicate a weak non-significant relationship with self-esteem. However, results from the qualitative data confirmed that cyber-bullying remains a threat to our university adolescent population. Conclusively, cyber-bullying is a dangerous psychological act that not only creates emotional trauma but also educates and facilitates the various types of perpetrators to harm others.

The study of cyber-bullying and its impact on self-esteem has profound implications for both educational and psychological practices. By understanding the correlation between these issues, practitioners can develop more effective strategies to mitigate the negative effects and promote a healthier environment for adolescents. It may help educators, mental health practitioners, and legislators for the application and curriculum design, professional development, classroom interventions, therapeutic approaches, assessment tools, collaborative practices, training programs, policy developments, funding allocation, and public awareness campaigns. The practical importance of findings related to the design of efficient intervention and preventive tactics for cyber-bullying includes understanding risk factors, development of educational programs, policy formulation, technological

solutions, support systems, community engagement, evaluation and improvement of interventions, and legal frameworks. To improve the well-being and digital literacy of adolescents, several treatments and policy modifications can be implemented based on discoveries related to cyber-bullying. Mindfulness and stress management programs, counseling services, comprehensive curriculum, hands-on workshops, parental education, family digital agreements, peer mentoring, and student-led initiatives enhance adolescents' well-being and digital literacy. Policy modifications, screen time regulations, safe online spaces, digital literacy standards, assessment and evaluation, public awareness campaigns, accessible resources, and regulation of contents can lead better environment (47, 48).

Limitations and Future Direction

This study has several limitations regarding its concept, definitions, measures, methodology, and sample area. Firstly, the concepts of bullying, cyber-bullying, workplace bullying, and cyber victimization vary from culture to culture and their concept and meanings change at every step so researchers cannot frame them for the next procedure of research. The second limitation is about definitions of cyber-bullying which are still debated among researchers. These debates influence the measurement of cyber-bullying because some studies believe a single occurrence of act noted as cyber-bullying while others studies believe that a certain number of acts will be called cyber-bullying. The above discrepancy is forcing the researcher to further examine to clear the entangled definition phenomenon. The third limitation is about the measure in which the prevalence rate creates barriers to generalized measurement criteria. A universal measure of cyber-bullying was used in this study with a twelve-month timeframe but other studies are different as reported previous two or three months. These differences will create critical doubt in determining to report to prevalence rate of cyber-bullying behavior. Lastly, the sample of this study is limited and specially targeted to specific regional university adolescents which are not a representation of the general whole population or universe. In summary, cyber-bullying is a distinct phenomenon that differs from traditional cultural bullying in several ways,

such as the velocity at which information spreads, cultural differences, the material's durability, and the accessibility of victims.

Conclusions

The current study found that among adolescents at Banaras Hindu University, both sub-scale cyber-bullying, and cyber victimization predicted self-esteem in which cyber victims significantly negatively connected with self-esteem. The self-esteem was significantly predicted by an individual victim of cyber-bullying, meaning that adolescents who had low self-worth were more prone to cyber victims. Self-esteem materials could be beneficial when developing interventions to combat cyber-bullying and cyber victims. However, further study is needed to examine the variations in bullying types and contexts. Despite these boundaries, this study provides enough further direction and empirical literature-based evidence that cyber-bullying may play a negative role and impact where self-esteem can be used as a personal psychological resource to cope with negative situations. The above findings contribute to the theoretical or empirical literature on cyber-bullying, especially cyber victims and its negative association or impact on adolescents, but researchers could also be used to develop cyber-bullying prevention programs to increase self-esteem and other psychological properties to protect against cyber-bullying.

Abbreviations

Nil.

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Author Contributions

Babita Vishwakarma- Conceptualization, Methodology, Formal analysis, Data collection, original draft preparation. Pushpa Kumari- Review, Editing, Supervision, conclusion. Amit Kumar Vishwakarma- Interpretation of Result, and Discussion, limitations and future directions

Conflict of Interest

None.

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