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Impact of Cyberbullying Behavior on the Self-Esteem among Secondary and Higher Secondary School Students in Punjab, Pakistan

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Abstract: *The internet users are more than four billion globally. The fast advancement in electronic technology caused an unpredictable variation in the development of students. The use of the internet has become the backbone of education and communication. The current study sets out to measure the impact of cyberbullying on the self-esteem among secondary and higher secondary school students in nine districts of Punjab, Pakistan were selected. The total sample size comprised of 3236 (1614 male 1622 female) students, and their ages were 13-19 years, recruited through conveniently sampling. Two questionnaires were employed in the present research for the purpose of data collection; Cyberbullying Scale and Rosenberg Self-Esteem Scale. The data were analyzed through Statistical Package for Social Sciences (SPSS 23.0). The quantitative results revealed that cyberbullying was significantly ($p < .01$) positively correlated with self-esteem. Further, linear regression results showed that cyberbullying was a significant impact on self-esteem. Results also showed the comparison between male and female samples for cyberbullying on the self-esteem, and results of the comparison showed that the mean of cyberbullying was self-esteem was significantly higher among female students than male respondents. The limitations of the results are discussed.*

Key Words: Cyberbullying, Cyber Victimization, Cyberbully Typologies, Self-Esteem, Students

Introduction

In the last few decades, the population increased, the living standard has been improved due to the advancement in technology. Nearly fifteen percent of the world's energy is consumed by technological advancement, and this demand increases rapidly (Sambo et al., 2015). Technology nowadays is an advanced usage of vintage acquaintance. Globally, at this point, there are more than four billion social media users, and technology is, for sure, continuously increasing. This is changing the way of functioning in our society. At this time, digital devices have become the basic desires of many societies' organizations and companies to communicate and link to each other. The impact of advanced technologies has advantages as well as disadvantages, which influence to change human lives. Social media has become the backbone of all types of academic and communicational affairs. The internet has numerous benefits, but on the other hand, it has a dark side. The widespread usage of social media such as web cameras, electronic mails, texting, Web pages, video chat room, instant messaging, etc., are helping adults in bullying their peers. This type of bullying is termed cyberbullying, which is now considered a global problem (Gomez-Garibello et al., 2012). These Social networks and ICT have become essential communication tools, especially for the youth and students. They consider social media a vital part of their daily lives (Patchin & Hinduja, 2006). A research report about social media users showed that 95percent of students aged 13-19 are active users (Zickuhr, 2020). Online bullying (cyberbullying) is clearly defined as the existence of a boisterous behavior or action that is conceded through an individual or group repeatedly and overtime in contradiction of the victim or victims. They can't explain their selves

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([Olweus, 1993](#)). Several significant diversities such as physical, relational, verbal (e.g., social prohibiting), and unintended (e.g., dispersal of rumors) could be mentioned, such as 'customary' sorts of bullying. Sexual category and age trends are established ([Smith, Madsen & Moody, 1999](#)). Nowadays, online bullying via electronic media, specifically the internet and mobile phone, has emerged, which is often labelled as cyber-bullying ([Patchin & Hinduja, 2010](#)).

Cyberbullying has received considerable attention in the United States in academic and social literature ([Agatston et al., 2007](#); [Hinduja & Patchin, 2008](#); [Ybarra & Mitchell, 2007](#); [Patchin & Hinduja, 2012](#)). This drew attention to recent experience in China ([Zhou, Tang & Tian, 2013](#)), among other nations besides Finland ([Williford et al., 2013](#)) and Australia ([Yousef & Bellemy, 2015](#)). In a study of high school students, Holfeld and Grabe (2012) reported that 55% of the students they sampled experienced some form of cyberbullying. [Olweus \(1993\)](#) "when a person is exposed to the negative actions of one or more people, he is exposed to violence many times and overtime and has difficulty defending himself" (p.9). In [Hinduja and Patchin \(2010\)](#), cyberbullying is defined as "intentional and recurring damage as a result of the use of computers, cell phones and other electronic devices" (p. 5). The use of information and communication technologies to facilitate an individual or group's intentional, repeated and hostile behaviour. [Ybarra and Mitchell \(2004b\)](#) describe cyber violence as "an open, intentional act of aggression against another person online" (p.1308).

Cyberbullying

Cyberbullying is extensively associated with technologies used to harm the exploited ([Gradinger et al., 2009](#)). Several studies described this term as harmful, intentional, and repeated reflect an abuse of power ([Bauman, 2007](#)). Cyberbullying is intentional and continued harm by the technological devices to the sufferer ([Hinduja & Patchin, 2010](#)). [Kowalski et al. \(2014\)](#) explained cyberbullying in their research as the use of electric communications technology to harass others. A broad definition by [Li et al. \(2012\)](#) stated that cyberbullying is an aggressive international activity carried out by an individual or group using electric forms of contact against the victims repeatedly and over time who cannot easily protect him or themselves. This definition is similar to offline bullying, which as verbal, physical or relational bullying ([Ševčíková & Šmahel, 2009](#)). The usage of different significances has influenced a great deal of research, including recorded rates of pervasiveness, showing catholic variations ([Lenhart et al., 2010](#)). Mostly the concepts of cyberbullying proved to be based on one definition agreed upon, and it seems vibrant that there is some connection between bullying and cyberbullying. Another survey showed that bullying and cyberbullying are strongly linked ([Kowalski et al., 2014](#)). Cyberbullying requires its own independent protection or inspection, and several studies indicated that it might cause disability above and above conventional bullying ([Cross et al., 2015](#)). Cyberbullying is a serious issue with adverse effects on students. The most public places where this has occurred (i) Social media like as TikTok, Instagram and Snapshot (ii) Messaging apps and text messaging on tablet devices or mobile phones (iii) Online forums, message boards and chat rooms (iv) email (online gaming ([Whittaker & Kowalski, 2015](#)). Cyberbullying behavior has come to the vanguard of the study, with reports of extraordinary prevalence and thoughtful insinuations sparking amplified attention within mass media. When the world is considering this form of bullying, the researchers are researching this area in order to learn more about the characteristics of this issue ([Limber, Olweus, Wang, Masiello & Breivik, 2018](#)). Many researchers identified different types of cyberbullying and these types compared with the forms of offline bullying of traditional bullying ([Vandebosch & Van Cleemput, 2009](#)). Direct and indirect types of cyberbullying have been recorded as offline bullying (conventional bullying). Direct cyberbullying refers to behaviours that directly involve victims, while indirect cyberbullying can occur without victims' understanding. There have been a number of cyberbullying positions discovered by researchers. Traditional bullying research has focused mostly on victims and bullies ([Salmivalli et al., 1996](#)). The impact of cyberbullying explored in the area of students' behavior. Generally, researchers look at the association and impact of cyberbullying and student's propensity to internalizing issues such as the positive and negative development affective disorders, anxiety, loneliness, low self-esteem and somatic symptoms. This association explored among Canadian students ([Bonanno & Hymel, 2013](#)), Finish students ([Sourander et al., 2010](#)), German students

([Katzet et al., 2009](#)), Turkish students ([Arıcak et al., 2008](#)), American students ([Wigderson & Lynch, 2013](#)), Asian and Pacific Islander students ([Goebert, Else, Matsu, Chung-Do & Chang, 2011](#)), Chinese students ([Wong et al., 2014](#)) and students of Taiwan ([Chang et al., 2013](#)). Over the last decades, cyberbullying is a pervasive behavior that comes to the attention of the media and researchers. Cyberbullying is a growing field; researchers explored several aspects of behavior that focused on the demographic and personal factors of a person involved.

Cyberbullying is a communal behavior prevailing in all aspects of students. It was studied among pre students and students' secondary school population ([Hong et al., 2014](#); [van Geel et al., 2014](#)). Numerous studies have shown a considerable number of pupils are victimized by cyberbullying, which leads to understanding that cyberbullying behavior is becoming a serious problem ([Klomek et al., 2010](#); [Li et al., 2016](#); [Singh & Dhillon, 2020](#)). It has been reported approximately 20 to 40 per cent of students were involved in cyberbullying that adversely affected them ([Tokunaga, 2010](#)). The occurrence rate of cyberbullying has on the different studies that have been carried out till now ([Chun et al., 2020](#); [Brochado et al., 2017](#)). Prevalence frequency of cyberbullying according to the international reviews 4 to 36 percent was the victimization of cyberbullying, and 16 to 18 percent were cyber aggression ([Barlett et al., 2014](#)). Several researches have shown an association between cyberbullying and social, emotional and educational difficulties ([Patchin & Hinduja, 2012](#); [Wade & Beran, 2011](#)).

It is strongly known that offline bullying results in long term mental harm to victims. This harm is reflected in their self-esteem. It is possible that the mental harm reflected by cyberbullying may be greater. There is no seepage for the teenagers who are being cyberbullied. Sometimes bullies are unknown. For overreact of parents, many students appear reticent to tell about cyberbullying to their parents. Students who communicate regularly online has been playing more than one bullying triad such as victim, bully and bystander. The victim is currently received online cruelty. The bullies who are engaging in online societal cruelty. Normally bystanders are two types, first those who are the part of the problem and second, who is the part of the solution ([Willard, 2007](#)).

Self Esteem

For decades self-esteem has become a hot topic in psychology, Freud who was considered a founding father of psychology, have given theories about self-esteem that has the heart of his work ([Ackerman, 2020](#)). Self-esteem usually mentions to an individual's overall sense of his or her worth or value. It's a sort of measure that can be considered how much an individual's values that approve of or appreciates likes prizes him or her ([Adler & Stewart, 2004](#)). An expert Morris Rosenberg defined self-esteem as it's a simple and quiet attitude to oneself. He defined it as unfavorable and favorable attitude towards self. Another expert Leary and Dawns, considered self-esteem to be an inner representation of societal acceptance and rejection and this psychological gauge mentioning the degree to which an individual is included via excluded by others ([Kerins, 1995](#)). Both these concepts highlight the fact that self-esteem is an insight. An individual's belief in himself or herself and in his/her own social contribution. Interpersonal difficulties often lead to conduct, such as bullying ([Rosenberg, 2015](#)). Various factors that influenced self-esteem included (i) personality, (ii) genetics, (iii) age, (iv) life experiences, (v) thoughts, (vi) health, (vii) comparing the own to others (viii) the reaction of others (ix) social circumstances ([Ackerman, 2020](#)).

A student is a period when the identity has developed. Depending on the social environment, the identity formulation procedure. Teenagers prefer to look for positively helpful situations and behaviour, avoiding those who make their texture bad about who they are—acceptance and perception of your changing self generally ([Patchin & Hinduja, 2010](#)). Significant evidence has accurately explained that the experience with bullying has negative impacts that tend to have low self-esteem than no victims ([Wild, Flisher, Bhana & Lombard, 2004](#)). The accurate reasons for the association are less agreed upon and clear. The experience of being victimized decreased individuals self-esteem ([Egan & Perry, 1998](#)). Researchers have found avoidances to suggest that the bullies tend to have higher and low self-esteem ([Salmivalli et al., 1999](#)).

Relationship between Cyberbullying and Self Esteem

Throughout the life of a human being, cyberbullying and stages of development have numerous challenges that individuals will face. They are not deal with all of these challenges in a suitable way. One's self-esteem in students is affected by events in their students' years. Erickson (1965) explained eight stages that persons go through on the way to maturity and the numerous challenges they faced. The reason for these challenges is a major disruption and its impact on an individual's identity in students' years that can, in turn, forward into adulthood. [Patchin and Hinduja \(2010\)](#) based on the huge amount of literature that explained the impact of cyberbullying on self-esteem. [Rosenberg \(1965\)](#) defined self-esteem as a positive and negative attitude towards themselves ([Yousef & Bellamy, 2015](#)). Numerous studies declared a negative impact of cyberbullying on students' self-esteem. Research conducted by [O'Moore \(2012\)](#) on students that found victims of cyberbullying have low self-esteem than students who have never been bullied. [Hinduja and Patchin \(2008\)](#) pointed out that self-esteem is damaged by experiencing self-esteem. [Cappadocia et al. \(2013\)](#), [Heirman and Walrave \(2008\)](#) stated that cyber victims and cyberbullies showed low self-esteem. Meta-analysis research conducted by [Zych et al. \(2019\)](#) of this analysis shows that the victims are more depressed and have low self-esteem than their non-bullied. [Sampasa-Kanyinga et al. \(2014\)](#) conducted a study and described the skipping breakfast has a negative impact on student's self-esteem. Many achievements have been formed by positive self-esteem so that students earned their achievements through the development of positive self-esteem ([Woodhead, 2009](#)). Cyberbullying victimization is normally related to low self-esteem ([Van Roekel et al., 2010](#)).

Gender Differences in Response to Cyberbullying on the Self Esteem

Differences in gender research in cyberbullying present inconsistent findings ([Tokunaga, 2010](#)). Gender analysis between 2007-2010 and research indicates that women are more likely to be cyberbullying victims. It is far more recognized in traditional bullying literature that women are more prone to cyber-attacks than males to gender disparities. When gender inequalities are traditionally aggressive, children tend to be violent and victimized as well as girls ([Boulton et al., 2012](#)). Significant combinations between cyber aggression and IQ, computer frequency, self-esteem, and depression have been found by [Didden et al. \(2009\)](#). In cyber violence, there was no connection between age and gender. Women were over-represented among cyberbullies, victims and victims of violence. External actions and low auto-esteem are psychosocial features of cyber victims and victims of violence. No adaptive psychosocial signs were confirmed by Cyberbully. The weakest psychosocial adaption was seen by cyber violence victims and by those who had experienced both face-to-face and cyber violence. [Adams \(2010\)](#) has shown that the girls of students are more likely than boys to experience cyberbullying compared to 16%. There are more girls rumoring, whereas boys publish inappropriate photos or videos. Girls tend to be cyberbullying victims, whereas boys are more likely to be cyberbullying victims. The social danger of sexting, of course, can cause the material to spread very easily and widely without the control of the creator. The ease with which photographs and the like can be passed on to others can be used intentionally and often in violence against women. Outcomes and outcomes of sexting may include negative issues resulting from students dating violence, blackmail, peer pressure and cyberbullying ([Wade & Beran, 2011](#)).

Aims and Objectives

Cyberbullying can have significant impacts on the key developmental stages that students go through. For example, it can result in the poor mental health of victims, leading to heightened feelings of sadness, anxiety, frustration and embarrassment. However, Cyberbullying can be most detrimental in harming psychosocial development, specifically self-concept and self-esteem. Victims state that Cyberbullying most negatively impacts their self-esteem (78%) and self-evaluation (70%). It can also result in increased social anxiety, mistrust of others, fewer friendships and feelings of isolation, which can affect an individual's social skills and hinder development in interpersonal relationships. As adolescence is a crucial time for growth in self and personality and self-conceptions move from being physical to more psychological and reflective, the victimizing nature of Cyberbullying can be hazardous to development. This study aims to assess cyberbullying and its relationship with self-esteem. Thus, the problem is

entitled as: “The Impact of cyberbullying and self-esteem among secondary and higher secondary school students in Punjab Pakistan”. The objectives of the study were: (a) to find out the level of cyberbullying among secondary and higher secondary school students and (b) to find out the relationship between cyberbullying and self-esteem among students.

Research Hypotheses

H1: It was hypothesized that cyberbullying would significantly impact the self-esteem of students in Pakistan.

H2: It was anticipated that gender level would prevail differently among the students when cyberbullying impact their self-esteem.

Research Methodology

In nature, research was quantitative, the cross-sectional research design was employed with the true spirit of quantification, and descriptive and correlation research method was used in the present research. The 3236 students and their ages were 13 to 19 years were selected in nine districts of Punjab were explored which included the district of Bahawalpur, Dera Ghazi Khan, Faisalabad, Gujranwala, Rawalpindi, Multan, Sahiwal, Lahore and Sargodha. After selecting one district from each division, a list of their public secondary and higher secondary schools was retrieved from the list of schools available online provided by the District Admission Offices. After the selection of these schools, the permissions from the institutes were taken in order to collect data from the respective education centres. The permission protocols included detailed printing information regarding the purpose of the present research. The conveniently sampling technique was used to collect the data from the desired participants. The sample of the study is divided into two groups, the first group consists of 1614 male students, and the second group is consists of 1622 female students studied in public secondary and higher secondary schools in Punjab, Pakistan. The researcher used a survey tool, which consists of two scales: Cyberbullying Scale and Self-Esteem Scale. The questionnaire included four questions regarding the student’s gender, locality, subject and types of schools, well as 23 multiple choice questions about cyberbullying and self-esteem. The entire survey included 23 questions.

Cyberbullying Victimization Scale

Developed by ([Patchin and Hinduja, 2010](#)). The modified version of this scale of cyberbullying victimization has the usage to measure the various kinds of cyberbullying victimization rates. This inventory is based on and builds upon the definition of cyberbullying and caters to or involves its multiple types. The types include using my space, instant text messages, chat rooms and email forums. This tool gauges the experience of the participants that they underwent in the last 12 months and assesses their experience in nine multiple forms of cyberbullying (which include sending or posting hurtful or mean comments about someone). In particular, the study participants were inquired to point out how often a specific experience of cyberbullying victimization occurrences to them in the last 12 months, prior to their participation in this study. The responses of the participants were collected on a 5-point Likert scale, in which 0 represented never, 1 represented once or twice, 2 represented a few times, 3 represents multiple times while 4 represents everyday experiences. The total score ranges from 0 to 36, with 36 being the highest score and meaning that the participants have had the experience of cyberbullying victimization more frequently in multiple ways or forms. Furthermore, the psychometric properties like validity, reliability and factor structure of the cyberbullying victimization scale have been evaluated. Hinduja and Patchin also studied the prevalence of cyberbullying in different studies with the focus on youth (age range between 11 to 18 years). According to them, the Cronbach’s alpha for the studied they conducted (four in total) ranged from .74 to .93 in 2007 and 2010. For the present research, the Cronbach’s alpha for cyberbullying victimization has been .71. For measuring the construct validity of this tool, the authors conducted “principal components extraction” with oblique rotation. Through factor analysis, the results revealed that all the items of this scale loaded on 1 factor (the range of loadings was from .504 to .599; eigenvalue was 2.92). Moreover, the authors recently reported similar results, which show that all the items of the cyberbullying victimization scale loaded on 1 component (the range

of loadings was from .675 to .715 with eigenvalue ranging from 6.07 to 6.40), building upon the 4 studies conducted during 2017 and 2010. Hence, both factor loadings of the instrument were more than 0.50, which shows that it has a high concurrent validity (Waltz et al., 2010).

Rosenberg Self-Esteem Scale

Developed by (Rosenberg 1965). The instrument used to assess the self-esteem of the study participants was Rosenberg Self-Esteem Scale. This tool consists of 10-item long self-report inventory that is used to assess an individual's self-esteem or how they view themselves. The study participants were stated to respond to the items like how they feel about themselves. The responses are collected on a Likert 4-point scale with 1 being strongly disagree, and 4 be strongly in agreement Mean score is used for every item, which ranges from 1-4. The higher value represents higher self-esteem, while the lower values represent a low level of self-esteem. Rosenberg Self-Esteem Scale has high psychometric properties, a consistent factor structure across the globe. As per the findings of (Robins, Hendin, et al., 2001), the internal consistency of the Rosenberg Self-Esteem Scale was acceptable. Moreover, the Cronbach's alpha was .88 for the sample of 508 undergraduate students (Robins, Tracy, et al., 2001).

Results

The researcher entered responses of questionnaires by Statistical Package for Social Sciences (SPSS-23.0) software and analyzed the data; Independent sample t-test, descriptive statistics, and correlation would be suggested for hypotheses testing. Linear regression analysis was used to test the impact of cyberbullying on self-esteem among secondary and higher secondary school students in Punjab, Pakistan.

Table 1. Psychometric Properties for Scale

Variables	M	SD	Range	Cronbach's α
Cyberbullying Scale	19.10	4.188	11-55	.75
Rosenberg Self-Esteem Scale	20.70	5.401	11-55	.66

Table 1 shows psychometric properties for the scales used in the present study. The Cronbach's α value for Cyberbullying Scale was .75 ($>.70$), which indicated high internal consistency. The Cronbach's α value for Rosenberg Self Esteem Scale was .66 ($<.70$), which indicated low internal consistency.

Table 2. Regression Coefficient of Cyberbullying on the Self Esteem among Students

Variables	β	SE	t	p	95% CI
Cyberbullying Scale	5.37	.34	15.49	.000	[4.69, 6.05]
Rosenberg Self-Esteem Scale	.802	.018	45.169	.000	[-.76, .83]

Table 2 shows the impact of cyberbullying on self-esteem among secondary and higher secondary school students. The R^2 value of .39 revealed that the predictors explained 39% variance in the outcome variable with $F(1, 3234) = 2040.25, p <.000$. The findings revealed that cyberbullying positively predicted self-esteem ($\beta = .62, p <.000$).

Table 3. Comparison between Male and Female Sample for Cyberbullying on the Self-Esteem

Variable	Male (n = 1614)		Female (n = 1622)		t (3234)	p	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
Cyberbullying	18.62	5.52	19.16	3.04	-3.434	.001	-.846	-.231	.41
Self-Esteem	19.05	6.29	20.67	4.62	-3.176	.002	-.998	-.236	.30

Table 3 revealed significant mean difference on cyberbullying with $t(3234) = -3.434, p <.05$. Findings showed that female students higher scores on cyberbullying ($M = 19.16, SD = 3.04$) compared to

the male students ($M = 18.62$, $SD = 5.52$). The value of Cohen's d was 0.41 (< 0.50) which indicated small effect size. Findings revealed significant mean difference on self-esteem with $t(3234) = -3.176$, $p = < .05$. Findings showed that female students higher scores on self-esteem ($M = 20.67$, $SD = 4.62$) compare to the male students ($M = 19.05$, $SD = 6.29$). The value of Cohen's d was 0.30 (< 0.50) which indicated small effect size.

Discussion and Conclusion

The current study was designed to investigate the impact of cyberbullying on self-esteem among secondary and higher secondary school students in Punjab, Pakistan. For this purpose, two questionnaires were used to check the cyberbullying on the self-esteem among students. After the data analysis, results showed that the overall sample of male respondents was 49.8%, and female respondents were 50.2% from nine districts in Punjab, Pakistan. The results showed that cyberbullying was a significant positive predictor of self-esteem. Results also showed the comparison between male and female students for cyberbullying on the self-esteem, and the mean of cyberbullying and self-esteem was significantly higher among female respondents than the male respondent. Logically the results show that cyberbullying is significantly affected by self-esteem. Hence, the further validation of hypotheses with the review of previous studies is that those supported the hypotheses. The results are supported that the impact of cyberbullying behavior on the self-esteem among secondary school students ([Weeden et al., 2013](#)), which support this research. The results of this study support previous studies conducted by Patchin and Hinduja (2010). Based on the analysis of this study, cyberbullying was found to have a significant impact on student's self-esteem ([Chang et al., 2013](#)). Although the earlier researches already pointed out the negative impact of cyberbullying victimization ([Hinduja & Patchin, 2014](#); [Rubin, 2004](#)). This study is important because of its special focus on the impact of cyberbullying on student's self-esteem. This work provides additional evidence that electrical practices of students' violent behavior required the attention of parents, teachers, and policymakers. The cyberbullying experience of both bully and bullied is significantly associated with low self-esteem, even with the supervisory element of demographic difference. It is important for the teachers and parents to make efforts to prevent all types of bullying ([Hinduja & Patchin, 2010](#); Patchin & Hinduja, 2010). The findings of another study described that cyberbullying has an influence on the self-esteem of students ([Peled, 2019](#)). The second objective of the study was to explore the gender differences among the students ([Völlink et al., 2016](#)). According to the findings of the present study, there is a significant difference existed between male and female students with regard to cyberbullying. Female students showed that their opinion is stronger with cyberbullying as equated to male students. [Tokunaga \(2010\)](#) strengthened this also result and found differences in gender. Different researchers agree that the stressful impact of cyberbullying is escalating with the rapid expansion of technological advancement ([Hinduja & Patchin, 2011](#)). Many students who are victims of cyberbullies suffer silently; they avoid to complain to the authorities or their parents owing to the social stigma attached to victims of bullies ([Aricak et al., 2008](#)). Parents, teachers and institutional authorities have to be on the sentry for such incidences. It was concluded that cyberbullying showed a noteworthy impact on self-esteem. There is a significant difference existed between males and females with regard to self-esteem. The high mean score of female students indicates that their opinion is stronger with self-esteem as compared to male students. The study results also indicate there exists a large number in a moderate level of cyberbullying. The main emphasis of the study was to search for the relationship between cyberbullying and self-esteem. It is found that there exists a positive correlation between the variables. Low self-esteem shows that the influence of cyberbullying is affected a great majority of the sample in an inverse manner.

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