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Cyberbullying Victimization as a Predictor of Depressive Symptoms among Selected Adolescents Amid the COVID-19 Pandemic

Cyberbullying Victimization sebagai Prediktor Gejala Depresi pada Remaja Terpilih di Tengah Pandemi COVID-19

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ABSTRACT

Victimization via cyberbullying has become a significant mental health concern particularly among adolescents at risk of depression and other mental health issues. As the COVID-19 outbreak forced everyone to stay at home and participate in their educational, recreational, and entertainment activities online, this study investigated the relation between cyberbullying victimization and depressive symptoms among 612 college students in Tamilnadu, India. We hypothesized that experiences of cyberbullying victimization would predict depressive symptoms among the participants. Adolescents aged 18 to 19 from colleges in Tamilnadu completed an online survey composed of the Cybervictimization Questionnaire for Adolescents (CYVIC) and the Beck's Depression Inventory-II (BDI-II). Results showed a significant positive relation between cyberbullying victimization and depression ($r = 0.80, p < .001$). Regression analysis revealed that cyberbullying victimization is a statistically significant predictor of depressive symptoms ($r^2 = 0.65$). Likewise, impersonation ($r = 0.70$), written-verbal cyber victimization ($r = 0.73$), visual teasing/happy slapping ($r = 0.69$), and online exclusion ($r = 0.67$) contributed to the significant positive association between the variables. These findings can serve as a foundation for intervention programs to alleviate depressive symptoms by addressing cyberbullying experiences and conducting further research on the negative effects of cyberbullying victimization among adolescents.

ABSTRAK

Viktimisasi melalui perundungan-siber (*cyberbullying*) telah menjadi masalah kesehatan mental yang signifikan terutama di kalangan remaja yang berisiko mengalami depresi dan konsekuensi negatif lainnya. Ketika wabah COVID-19 memaksa semua orang untuk tinggal di rumah dan terlibat dalam kegiatan pendidikan, rekreasi, dan hiburan secara daring, penelitian ini menyelidiki hubungan antara *cyberbullying victimization* dengan gejala depresi pada 612 mahasiswa di Tamilnadu, India. Kami berhipotesis bahwa pengalaman *cyberbullying victimization* akan memprediksi gejala depresi partisipan. Remaja berusia 18 hingga 19 tahun dari perguruan tinggi di Tamilnadu menyelesaikan survei daring yang terdiri dari *Cybervictimization Questionnaire for Adolescents* (CYVIC) dan *Beck's Depression Inventory-II* (BDI-II). Hasil penelitian menunjukkan adanya hubungan positif yang signifikan antara *cyberbullying victimization* dan depresi ($r = 0,80, p < 0,001$). Analisis regresi mengungkapkan bahwa secara statistik, *cyberbullying victimization* adalah prediktor gejala depresi yang signifikan ($r^2 = 0,65$). Demikian juga, dimensi *impersonate* ($r = 0,70$), *written-verbal cyber victimization* ($r = 0,73$), *visual teasing/happy slapping* ($r = 0,69$), dan *online exclusion* ($r = 0,67$) berkontribusi pada hubungan positif yang signifikan antara variabel. Temuan ini dapat menjadi landasan program intervensi untuk mengurangi gejala depresi dengan mengatasi pengalaman *cyberbullying* dan melakukan penelitian lebih lanjut tentang efek negatif dari *cyberbullying victimization* di kalangan remaja.

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1. Introduction

The use of digital technology has become integral to adolescents' life (Allen et al., 2014) through self-expression, learning new things, demonstrating one's abilities, learning opportunities, seeking and maintaining friends (Alvarez-Garcia et al., 2019a), connecting with family members, keeping one's privacy, sharing information, creating social awareness, and participating in group activities (Boyd, 2014; Monica & Jingjing, 2018). Connecting with peers and friends provides social, material, emotional, and informational support; entertainment; a sense of belonging; and companionship and feedback, enhancing adolescents' identity formation (Glanz et al., 2008; Adler & Adler, 1998).

The COVID-19 pandemic forced everyone, especially adolescents, to adhere to social distancing measures and remain indoors. While physically distant, adolescents stayed socially connected through their widespread use of social media (Anderson & Jiang, 2018). A study conducted in 11 European countries among adolescents aged 10–18 from June to August 2020 found that 49% of the participants experienced cyberbullying at some point in their life. The highest percentage was in Italy (59%) and Ireland (59%), followed by Germany (58%) and Romania (57%), while the lowest was in Slovenia (32%). In another study, nearly half (44%) of the participants reported increased levels of cyberbullying during the COVID-19 spring lockdown (Lobe et al., 2021). A study conducted in South Africa on cyberbullying and the risk of victimization among children and youth during the COVID-19 lockdown used a qualitative approach, specifically nonparticipant observation. It collected data from three social media platforms (Facebook, Twitter, and Instagram) from the beginning of the lockdown. The results showed that as social media usage increased among children and youth during the lockdown, most of the participants became victims of cyberbullying (Mkhize & Gopal, 2021). Meanwhile, a study among 14- to 22-year-old social media users in the United States found that one in four young people “often” encounter racist, sexist, homophobic, or body-shaming comments in social media during the pandemic (Rideout et al., 2021).

Although the digital platform has provided adolescents novel ways to establish social ties, it has also become the preferred setting for bullying or being bullied. Many studies have suggested that cyberbullying is an extension of traditional bullying (Citic et al., 2011; Li, 2005; Raskauskas & Stoltz, 2007; Li et al., 2018). However, cyberbullying is distinguished by its anonymity, infinite audience, and the accessibility of victims at any time (Li et al., 2018; Connell et al., 2013; Citic et al., 2011; Aricak et al., 2008; Dooley et al., 2009; Kowalski et al., 2014). To date, cyberbullying

victimization has had no standard definition (Almenayes, 2017). Nonetheless, considering the context, the Indian criminologist K. Jaishankar defined cyberbullying as “abuse/harassment by teasing or insulting the victims' body shape, intellect, family background, dress sense, mother tongue, place of origin, attitude, race, caste, class, name-calling, using modern telecommunication networks such as mobile phones and Internet” (p. 30). This definition incorporates cultural and ethnic behaviors in India.

In their 2012 study of 25 countries, Microsoft found that India has the third-highest cyberbullying rate at 53% among 8- to 17-year-olds (Idris, 2017). Meanwhile, McAfee surveyed different cities in India in 2014 and revealed that 50% of Indian youth experienced cyberbullying as either victims or bystanders, while 36% were directly cyberbullied (Idris, 2017). Adolescents living in Tamilnadu, one of India's 29 states, frequently use social media to discuss and debate politics, education, literature, and social problems. Twitter India's youth engagement initiative (Social Samosa, 2019) revealed new research findings specific to the youth sentiment in Tamilnadu; that is, 85% of the surveyed youth will consult social media to know what is happening in India and around the world. However, McAfee's report titled “Tweens, Teens, and Technology” stated that among those surveyed in Chennai, the capital city of Tamilnadu, 45% had cyberbullied others by criticizing their intelligence level or appearance (Ramya, 2014). Another study among adolescents under 18 in Chennai found that 50% have experienced cyberbullying, while 57.9% have heard their friends being cyberbullied (Azam & Jasmin, 2018).

The American Academy of Child and Adolescent Psychiatry (2018) reported that cyberbullying victimization emerged from youth health issues with numerous negative consequences, affecting between 10% and 50% of adolescents globally (Almenayes, 2017). The Centers for Disease Control and Prevention (2014) stated that cyberbullying is a serious public health issue among youth. Kowalski et al.'s (2014) critical review and meta-analysis of cyberbullying research among young people found that victimization is positively associated with internalized problems such as stress, anxiety, depression, anger, suicidal ideation, somatic symptoms, and emotional problems. The same study also found a relation between victimization and externalized problems such as issues with conduct, drug and alcohol use, and a decline in prosocial behaviors. Similarly, victims of cyberbullying experience lower self-esteem, life satisfaction, and perceived support (Fisher et al., 2016; Kowalski et al., 2014). Studies also revealed that cyberbullying victimization is significantly associated with loneliness or social isolation, negative self-cognition (Cole et al., 2017), negative social

comparison (Feinstein et al., 2013), low self-esteem (Extremera et al., 2018), hopelessness (Bonanno & Hymel, 2013), maladaptive emotion regulation (Feinstein et al., 2013), sleeping difficulties (Sourander et al., 2010), distress (Cenat et al., 2015), anxiety (Fahy et al., 2016), self-harm, suicidal ideation (John et al., 2018), and depression (Almenayes, 2017).

Considering such empirical evidence, this study sought a correlation between cyberbullying victimization and depression during the COVID-19 pandemic among college-going adolescents. Furthermore, this study’s findings aimed to contribute to the empirical data on open research questions on cyberbullying victimization and the development of intervention programs for adolescents already victimized by cyberbullying and who display severe depressive symptoms. Hence, the present study investigated the relation between cyberbullying victimization and depression among selected adolescent college students in Tamilnadu, India. We hypothesized that a positive relation exists between these variables (H1) and that cyberbullying victimization can significantly predict depressive symptoms (H2). Moreover, we explored which cyberbullying victimization dimensions influenced our participants’ depressive symptoms.

2. Methods

Design

The present study used a predictive, cross-sectional design in investigating the association between cyberbullying victimization and depression. This design aimed to forecast a phenomenon using data that has been collected during a relatively brief period (Johnson, 2001; Belli, 2008). Thus, we determined whether cyberbullying victimization would predict the depressive symptoms of selected adolescent college students in Tamilnadu, India, between January and February 2021.

Participants

The present study collected data from 612 adolescents (163 males, 26.6%; 449 females, 73.4%) residing in Tamilnadu, India, with ages ranging from 18 to 19 years (Mean [*M*] = 18.46; Standard Deviations [*SD*] = 0.49). The data were conveniently collected through an online survey conducted from January to February 2021. The adolescents in our sample provided their informed consent to participate through a Google form shared via Facebook, WhatsApp, and Messenger; participation was purely voluntary without remuneration. A total of 724 participants were recruited, but 112 were excluded from the final sample and analysis for providing incomplete responses and being outside the age limit. Table 1 shows the demographic profiles of the 612 valid participants.

Table 1. Participants’ Sociodemographic Characteristics

| Sociodemographic characteristics | Full sample | |
|----------------------------------|-------------|------|
| | n | % |
| Gender | | |
| Female | 449 | 73.4 |
| Male | 163 | 26.6 |
| Age | | |
| 18 | 333 | 54.4 |
| 19 | 279 | 45.6 |
| Living condition | | |
| With family | 525 | 85.8 |
| In the hostel | 71 | 11.6 |
| With relatives | 16 | 2.6 |

Note. *N* = 612

Measures

Cybervictimization Questionnaire for Adolescents (CYVIC). Alvarez-Garcia et al.’s (2017b) CYVIC scale is a 19-item questionnaire designed to assess the frequency with which informants report being victimized by attacks via mobile phone or the Internet in the past three months (e.g., “Someone has made fun of me with offensive or insulting comments on social networks”; “They have forced me to do something humiliating, they have recorded it, and then disseminated it to ridicule me.”). The items are rated using a four-point Likert scale (1 = never, 2 = rarely, 3 = often, 4 = always). Total scores are obtained by summing the ratings for all 19 items and can range from 19 to 76 points, with higher scores indicating a higher degree of cyberbullying victimization (Alvarez-Garcia et al., 2019a). The reliability of the CYVIC subscales and their items can be considered moderate or high. The Raykov rho composite reliability coefficients for each of the four factors ranged between 0.74 and 0.89. The proportion of variance in an item explained by the latent variable (*R*²) ranged between 34% and 77% (Alvarez-Garcia et al., 2017b). Cronbach’s alpha, another reliability measure, showed a value of 0.89 for the CYVIC in our study.

Beck’s Depression Inventory-II (BDI-II). The BDI-II consists of 21 items describing how an individual feels about themselves, the world, and the future (e.g., “I feel quite guilty most of the time”; “I do not feel that I look any worse than I used to.”). Beck designed this self-report scale to assess the severity of depression in adults and adolescents aged 13 and older. The BDI-II showed excellent reliability with an internal consistency coefficient (Cronbach’s alpha) of 0.92 for the outpatients and 0.93 for the students. Item–total

correlations were performed on both samples' scores, yielding significant correlations at the 0.05 level for both groups on all items, which are rated using a four-point Likert scale from 0 to 3. Total scores are obtained by summing the ratings for all 21 items and can range from 0 to 63 points. A total score of 0–13 is considered in the minimal range, 14–19 mild, 20–28 moderate, and 29–63 severe (Beck et al., 1996; Cinarbas et al., 2011; Al-Turkait & Ohaeri, 2010; Tusiime et al., 2015; Community-University Partnership for the Study of Children, Youth, & Families, 2011). The BDI-II had a Cronbach's alpha of 0.897 in the present study.

Procedure

This research was approved by the UST Graduate School Ethics Review Board. Adolescent participants were recruited through social media posts using convenient sampling. They answered our research questionnaire via a Google form that contained the purpose of the study, confidentiality, informed consent, demographic information questions, the CYVIC, and the BDI-II. The standardized scales were given in a randomized order (CYVIC–BDI-II or BDI-II–CYVIC) to control for possible systematic order effects. Before providing consent, the participants were given a brief description of the study and its procedures, benefits, and risks. They were also assured that all collected data would be kept secure and confidential and that participation would be purely voluntary without remuneration; at any time while answering online, they may withdraw from the study without prejudice and judgment. As a precautionary measure, we provided the participants a cellphone number to contact if they experience significant discomfort while answering the questionnaire. A total of 724 datasets were collected from January to February 2021, but after a review of the data, those with incomplete responses ($n = 112$) were excluded; thus, the present study had a final sample of 612. The collected data were then analyzed using the IBM Statistical Package for Social Sciences. Pearson's correlation and linear regression analysis were the main statistical treatments for analyzing the data.

3. Results

Table 2 shows a significant positive association between cyberbullying victimization and depression ($r = 0.80, p < 0.001$), validating our first hypothesis. In addition, regression analysis was conducted while controlling for age and sex to determine whether cyberbullying victimization can predict depression (H2). The results revealed that cyberbullying victimization is a statistically significant predictor of depression ($r^2 = 0.65, t = 33.91, p < 0.001$). Hence, we accept the hypothesis that higher cyberbullying victimization significantly predicts severe depressive symptoms among our adolescent participants.

We proceeded to determine the predictive influence on cyberbullying victimization through its key constructs: impersonation, visual–sexual cyber victimization, visual teasing/happy slapping, written–verbal cyber victimization, and online exclusion. Impersonation ($r = 0.70$), written–verbal cyber victimization ($r = 0.73$), visual teasing/happy slapping ($r = 0.69$), and online exclusion ($r = 0.67$) significantly contributed to the positive correlation whereas visual–sexual cyber victimization ($r = 0.39$) showed a weak positive correlation. This establishes that a significant positive correlation exists between cyberbullying victimization and depression.

4. Discussion

This study investigated the link between cyberbullying victimization and depression among adolescent college students during the COVID-19 pandemic. We hypothesized that the higher the experience of cyberbullying victimization, the higher the likelihood of experiencing depressive symptoms, and that cyberbullying victimization is a significant predictor in such a relation. Our results proved both our hypotheses and were consistent with previous findings (Li, 2005; Ybarra et al., 2009; Bonanno & Hymel, 2013; Almenayes, 2017).

Table 2. Means (M), Standard Deviations (SD), and Linear Regression Values of the Study Variables

| Variables | M | SD | B | r | r ² | β | SE | t | P |
|------------|-------|-------|-------|------|----------------|------|------|-------|-------|
| CV | 53.09 | 10.07 | 0.74 | 0.80 | | 0.80 | 5.45 | 33.91 | 0.001 |
| Depression | 32.06 | 9.26 | -7.39 | | 0.65 | | | -6.24 | 0.001 |

Note. $N = 612$. **Correlation is significant at the 0.01 level (one-tailed). CV - cyberbullying victimization, SE - standard error of the estimate

Studies have thoroughly documented depression among younger adolescents due to cyberbullying (Almenayes, 2017). Most of them, however, have focused on middle school and high school (Faucher et al., 2014; Cassidy et al., 2013), with only a few examining postsecondary education and college-going adolescents (Webber & Ovedovitz, 2018). In addition, after the COVID-19 outbreak, adolescents stayed at home to maintain social distancing, attended all their classes online, and connected with their friends via social media. In this challenging situation where bullies can reach their victims online at any time, adolescents became more prone to cyberbullying victimization (Rideout et al., 2021; Ronis & Slaunwhite, 2019). Moreover, before the COVID-19 pandemic, many studies on this subject have been done in Western countries, while only a few have been conducted in India. Now, after the COVID-19 outbreak, a small number of studies was published in Western countries, and the literature has not focused on empirical evidence from India.

The COVID-19 pandemic has caused many teenagers and children to feel alone and out of control; thus, they spent considerable time engaging in online activities such as gaming and chatting. Being isolated from friends, educators, peers, and mentors, they became prone to losing their confidence and motivation. These situations and factors might have led adolescents to become perpetrators or victims of cyberbullying. Parents may have also felt exhausted from monitoring their children's and adolescents' online activities other than "school" hours (Stomp out bullying, n.d). Before the pandemic, adolescents could go to gyms, parties, classes, or any activities outside the house, but because of COVID-19 and the lockdowns, they found their entertainment online. The result is now an almost limitless number of potential targets and aggressors (Klatt, 2021). Yusuf et al.'s (2021) study on Malaysian adolescents' perception of cyber-aggression-victimization discovered that Internet exposure is the strongest predictor of cyber-aggression-victimization.

Furthermore, this study revealed that impersonation, written-verbal cyber victimization, visual teasing/happy slapping, and online exclusion contributed to the strong positive relation, while visual-sexual cyber victimization showed a weak positive association. These findings are consistent with those of Calvete et al. (2010), Diaz-Aguado et al. (2013), Garaigordobil (2015), Buelga et al. (2015), and Alvarez-Garcia et al. (2017a), which revealed that visual cyber aggression, including sexual cyber aggression, is the least common among the adolescents. A study by Alvarez-Garcia et al. (2019b) showed that one possible reason for the weak positive correlation might be that perceived overweight adolescents have to be cyberbullied to compensate for their lower likelihood to engage in sexting.

Rumination may be a mechanism through which cyberbullying victimization influences mental health problems. A study by Locatelli et al. (2012) also supported this argument. This aligned with the findings of Feinstein et al. (2013) that cyberbullying victimization is associated with increased depression and rumination over time. Adolescents are afraid to report these incidents to their parents. UNICEF (n.d.) posted a question to young people: "What would you like to know about cyberbullying?" After receiving thousands of responses worldwide, UNICEF brought together specialists and international cyberbullying and child protection experts and teamed up with Facebook, Instagram, and Twitter to answer questions and give advice on ways to deal with online bullying. One of the top 10 questions was about how an individual can approach their parents after being victimized by cyberbullying despite being afraid to do so. Such a fear causes adolescents to ruminate about their bullying experiences, and rumination leads to depression. Chang et al. (2015) conducted a study among Taiwanese adolescents and discovered that those who perceived a lower level of parental attachment were more likely to experience cyberbullying and depression.

5. Conclusion

The present study contributes to existing evidence-based research on cyberbullying victimization and its connection with depressive symptoms among adolescents, particularly providing additional data from college students in Tamilnadu, India. However, we acknowledge some limitations of the study, such as those inherent to self-reports, the questionnaires being constrained in terms of age and geographical region, the small number of studies on cyberbullying victimization in India, and only a few studies available globally regarding cyberbullied adolescents during the COVID-19 pandemic. Thus, future research can explore (1) whether a connection exists between cyberbullying and adolescents such as orphans and/or semi-orphans, children of addicts, students in the Central Board of Secondary Education (CBSE) and the Tamilnadu Board of Secondary Education, and adolescent students in rural or urban colleges; (2) awareness of cyberbullying among adolescents, parents, and teachers; and (3) where adolescents experience a higher degree of cyberbullying, that is, whether in college premises or outside college hours.

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