Cyber-Victimization and Cyberbullying: The Moderator Effects of Emotion Regulation from Perpetrators

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Abstract
Cyberbullying is a form of behavior that harms, disrupts, and threatens the safety of other users on social media. Cyberbullying is crucial to explore, considering that most research focuses on victims and less on perpetrators. The present study aimed to examine the role of emotion regulation in moderating cyber-victimization and cyberbullying. This correlational study involved 103 respondents (38 males and 65 females). They are aged 19-24, in the second to fourteenth semesters, and indicated as a perpetrator of social media. Data were collected using the Emotion Regulation Questionnaire (ERQ) and the Cyberbullying Inventory (CBI). The data analysis techniques applied in this study were descriptive, correlational, cluster, and regression-based moderator analyses. The moderator analysis used the PROCESS syntax in IBM SPSS. This study showed that emotion regulation predicted decreasing cyberbullying, whereas cyber-victimization strongly correlated with cyberbullying. Furthermore, the negative correlation between cyber-victimization and cyberbullying increased when emotion regulation was low. This study confirmed that most perpetrators experienced cyber-victimization, and emotion regulation strategically reduced those circumstances.

INTRODUCTION
Cyberbullying should be avoided in social media interactions because it harasses, intimidates, threatens, or harms others through communication technology (Patchin & Hinduja, 2010). In fact, as in the real world, social media interactions should consider ethics and social norms (Paat, 2020). Everyone interacting with others on social media is expected to understand each other, respect their privacy, and maintain harmony among fellow social media users. Unfortunately, many social media users are negligent and neglectful in considering ethics and social norms. Many social media users are busy and too focused on meeting their needs, so they neglect to care about others' feelings (Valkenburg, Beyens, Meier, & Vanden-Abeele, 2022). They commit cyberbullying, hacking, and fraud (Giumetti & Kowalski, 2022). Among those unethical actions, cyberbullying has the highest probability of being conducted by social media users because they think that the consequence tends to be less risky. Therefore, cyberbullying
is very crucial for more exploration because its existence is alarming in online social interactions.

Previous studies have tended to explore cyberbullying behavior from the victim's perspective. For example, a study from Geng et al. (2022) on victims of cyberbullying showed that childhood maltreatment predicted cyber-victimization in subjects with low self-compassion. Furthermore, research by Gül et al. (2018) in identifying the prevalence of cyber-victimization and cyberbullying only involved 150 teenagers, and it was known that 53.3% of them were cyberbullying perpetrators. A study conducted by Wangid (2016) on victims of cyberbullying found that there are three dominant forms of cyberbullying, namely flaming (58.86%), harassment (45.72%), and cyber-stalking (36.68%). Thus, victims of cyberbullying get much attention from various studies, so the focus on cyberbullying requires further exploration (Gül et al., 2018). Therefore, this study is intended to update the study of cyberbullying in terms of the impact of cyber-victimization on the tendency to carry out cyberbullying by involving respondents who are indicated as perpetrators.

Cyberbullying can be defined as a conscious and deliberate action to harass, mistreats, or make fun of by attacking through the digital technology platform, including social media, either only once or repeatedly (Ansary, 2020; Smith et al., 2008). This cyberbullying action occurs because of an imbalance of power between the victim and the perpetrator, where one party feels stronger (the perpetrator) than the other party (the victim) (Slonje et al., 2013).

Cyber-victimization is the experience of being the target of cyberbullying action in the past; specifically, cyber-victimization can be defined as the process of internalizing an individual's cognitive and emotional experience when being a target and victim who builds a pattern that is implemented in their behavior and subsequent social feedback such as increased victimization of cyberbullying, withdrawal, and other adverse outcomes (Gardella et al., 2017).

The experience of cyber-victimization has the probability of increasing the prevalence of cyberbullying (Bauman, 2010) because cyberbullying behavior is seen as a coping strategy to vent negative feelings about cyberbullying experiences in the past (Kokkinos et al., 2013). From the Uses and Gratification Theory perspective in cyberbullying (Hu, 2016), cyberbullying is a deliberate action with motives such as entertainment, revenge, hurt, and dominance (Tanrikulu & Erdur-baker, 2020). Hu (2016) identified two motives for cyberbullying, namely reactive motives (such as retaliation, anger, and rage) and instrumental motives (such as power, affiliation, and fun). Therefore, in this study, it can be hypothesized that cyber-victimization predicts an increase in cyberbullying (H1).

Emotion regulation can be defined as the ability to exert control of his or her emotional state through the process of monitoring, evaluating, and modifying emotional reactions so that they become more adaptive (McRae & Gross, 2020; Thompson, 1994).
Research findings on the role of emotion regulation in cyberbullying and cyber-victimization tend to be inconsistent. On the one hand, a study by Arato et al. (2020) indicates that the preparers of cyberbullying tend to use adaptive and maladaptive emotion regulation strategies to deal with their negative emotions. While on the other hand, Gül et al. (2018) showed that cyber-victimization, the perpetrator of cyberbullying, has low emotion regulation. For example, cyber-victimization and cyberbullying action are predicted by low emotional competence (Marín-López et al., 2020).

Furthermore, cyber-victimization is predicted as a response to adverse events experienced by victims through negative emotions (Erreygers et al., 2018). Victims of cyberbullying tend to have difficulty realizing their emotions, resulting in emotional instability (Kokkinos et al., 2013). In this condition, victims of cyberbullying have difficulties regulating their emotions and view cyberbullying action as the appropriate coping strategy for expressing their emotions. Therefore, in this study, it can be hypothesized that there are moderator effects of emotion regulation on the relationship between cyber-victimization and cyberbullying (H2).

Thus, this study was intended to explore the motive for cyberbullying among the perpetrators. Moreover, the present research is expected to clarify the moderator effects of emotion regulation on cyber-victimization and cyberbullying. The findings of this study are expected to provide recommendations for cyberbullying interventions, especially for perpetrators, through strengthening emotion regulation.

**METHOD**

This study implemented the correlational design, which constructed cyberbullying as the dependent variable, cyber-victimization as the independent variable, and emotion regulation as the moderator variable. The model of emotion regulation in moderating cyber-victimization and cyberbullying can be visualized in Figure 1.

![Figure 1](image)

*The Moderating Effect of Emotion Regulation on Cyber-Victimization and Cyberbullying*

This study used a purposive sampling technique to select one hundred-three respondents (38 males and 65 females). They are aged 19-24 and are in the second to fourteenth semesters. They were selected with criteria indicated for cyberbullying behavior on social media under the platform Instagram.
Emotion regulation data were collected using the Emotion Regulation Questionnaire (ERQ), which was developed by Gross (2001), while cyberbullying and cyber-victimization data were collected using the cyberbullying inventory (CB-I), which was developed by Tanrikulu and Erdur-baker (2020). These instruments were adapted into Indonesian following the back-translation procedures involving two qualified translators from the Center for Language Development and Educational Training, Universitas Negeri Semarang.

The Cyberbullying Inventory (CB-I) has 11 items that were applied to measure cyberbullying and cyber-victimization. Each item has a two-way response as a perpetrator and a cyberbullying victim. Thus, each item produces cyberbullying data and cyber-victimization data. Each item has four scaling points (1 = never, 4 = more than three times) for responding as perpetrators and victims. CB-I has an alpha reliability coefficient of 0.88 for cyberbullying and cyber-victimization subscales.

The Emotion Regulation Questionnaire (ERQ) has ten items on a 5-point scale (1=strongly disagree, 5 = strongly agree). This scale has two aspects, namely cognitive reappraisal (6 items; I control my emotions by changing the way I think about the situation I am in) and suppression facet (4 items; When I want to feel less negative emotion, I change the way I am thinking about the situation). The alpha reliability coefficient of this scale was 0.70 for the cognitive reappraisal aspect and 0.81 for the suppression facet aspect.

The data collection of this research was conducted online through a Google form. The respondents, whom the researchers identified as carrying out cyberbullying behavior on social media, were invited to respond to the research scale. Invitations to complete the research scale were sent directly to their social media accounts. Then, they answered the scales between 0-14 days.

The data analysis techniques applied in this study were descriptive, correlational, cluster, and regression-based moderator analyses. Cluster analysis was conducted to classify the respondent's level of emotion regulation into three groups, namely low emotion regulation, moderate emotion regulation, and high emotion regulation. Regression-based moderator analysis was performed using a bias-corrected bootstrapped technique with a confidence interval (CI) of 95% and N = 5000. The moderator analysis used the PROCESS syntax (Preacher & Hayes, 2013) model 1 on IBM SPSS version 21 software.

RESULT

As presented in Table 1, cyberbullying and cyber-victimization tend to be moderate. Cyber-victimization and cyberbullying had a very high degree of correlation ($r = .95$, $p < .01$). Meanwhile, emotion regulation correlates negatively with cyber-victimization ($r = -.49$, $p < .01$) and cyberbullying ($r = -.56$, $p < .01$).
Table 1

Mean, SD, and Intercorrelation Matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>Range</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cyberbullying</td>
<td>1-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cyber-victimization</td>
<td>1-4</td>
<td>.95</td>
<td></td>
</tr>
<tr>
<td>3. Emotion Regulation</td>
<td>1-5</td>
<td>-.56</td>
<td>-.49</td>
</tr>
<tr>
<td>( M )</td>
<td>2.16</td>
<td>2.27</td>
<td></td>
</tr>
<tr>
<td>( SD )</td>
<td>0.26</td>
<td>0.25</td>
<td></td>
</tr>
</tbody>
</table>

\( p < .001 \)

Before analyzing the moderating effect of emotion regulation, we conducted a cluster analysis to divide the respondents' emotion regulation levels. The results are presented in Table 2. The results of the cluster analysis confirm that there are three levels of emotion regulation, namely low emotion regulation (\( M = 3.17; N = 29; 2nd \) group), moderate emotion regulation (\( M = 3.55; N = 38; 3rd \) group), and high emotion regulation (\( M = 3.91; N = 36; 1st \) group). The distribution of the level of emotion regulation indicated a highly significant difference in the level of emotion regulation (\( F(2, 100) = 393.59, p < .01 \)). Referring to the results of the cluster analysis, in testing the moderating effect of emotion regulation, the level of emotion regulation was divided into three levels.

Table 2

Results of Cluster Analysis of Emotion Regulation

<table>
<thead>
<tr>
<th>Low Emotion Regulation</th>
<th>Medium Emotion Regulation</th>
<th>High Emotion Regulation</th>
<th>( F(2, 100) )</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M )</td>
<td>3.17</td>
<td>3.55</td>
<td>3.91</td>
<td></td>
</tr>
<tr>
<td>( N )</td>
<td>29</td>
<td>38</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

The regression analysis results indicated that cyber-victimization significantly predicted an increase in cyberbullying (\( \beta = .93, t = 15.55, p < .01 \)). This finding supported the H1 of this study.

Table 3

Results of The Moderator Analysis of Emotion Regulation

<table>
<thead>
<tr>
<th>Predictors</th>
<th>SE</th>
<th>( t )</th>
<th>( p )</th>
<th>( BC CI (95%) )</th>
<th>( R )</th>
<th>( R^2 )</th>
<th>( F(1.99) )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criterion: Cyberbullying</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.95</td>
</tr>
<tr>
<td>Cyber-victimization (1)</td>
<td>.93</td>
<td>.06</td>
<td>15.55</td>
<td>&lt; .01</td>
<td>.81</td>
<td>1.05</td>
<td></td>
<td>.91</td>
</tr>
<tr>
<td>Emotion Regulation (2)</td>
<td>.04</td>
<td>.01</td>
<td>2.59</td>
<td>&lt; .05</td>
<td>.01</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( 1 \times 2 )</td>
<td>-.23</td>
<td>.09</td>
<td>2.49</td>
<td>&lt; .05</td>
<td>-0.41</td>
<td>-0.05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conditional Moderator Effect of Emotion Regulation

<table>
<thead>
<tr>
<th>Emotion Regulation</th>
<th>Effect</th>
<th>SE</th>
<th>( T )</th>
<th>( p )</th>
<th>( BC CI (95%) )</th>
<th>( LL )</th>
<th>( UL )</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.81</td>
<td>1.12</td>
<td>.05</td>
<td>22.45</td>
<td>&lt; .01</td>
<td>1.02</td>
<td>1.21</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>.93</td>
<td>.06</td>
<td>15.55</td>
<td>&lt; .01</td>
<td>.81</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td>0.81</td>
<td>.75</td>
<td>.13</td>
<td>5.94</td>
<td>&lt; .01</td>
<td>0.50</td>
<td>0.99</td>
<td></td>
</tr>
</tbody>
</table>
Moreover, increased emotion regulation predicted an increase in cyberbullying ($\beta = .04, t = 2.59, p < .05$). Interestingly, the results of the bias-corrected bootstrapped analysis with 95% CI showed a moderating effect of emotion regulation on the relationship between cyber-victimization and cyberbullying ($\beta = -.23, t = -2.49, p < .05$). This finding supported the H2 of the present study. The moderator effects of emotion regulation indicated that the relationship between cyber-victimization and cyberbullying will weaken as the emotion regulation level increases (see Figure 1). Cyber-victimization explained the variance of cyberbullying by 55.2% for respondents with low emotion regulation and 46.4% for respondents with moderate emotion regulation. Meanwhile, when emotion regulation is high, cyber-victimization had a weaker explanation than the cyberbullying variance of 11.4%. Cyber-victimization and emotion regulation explained the cyberbullying variance of 90.5% ($R^2 = .905$).

DISCUSSION

This study was intended to examine: 1) the prediction of cyber-victimization on cyberbullying and 2) the moderator effects of emotion regulation in explaining the relationship between cyber-victimization and cyberbullying. As predicted in hypothesis 1, the findings of this study confirmed that cyber-victimization predicted an increase in cyberbullying. The impact of cyber-victimization on cyberbullying in this study...
supported the results of previous research (Bauman, 2010; Paez, 2019). The findings of this study successfully confirm the existence of a highly significant prediction of cyber-victimization on cyberbullying from the perspective of cyberbullying perpetrators.

In previous studies of cyberbullying perpetrators (e.g., Paez, 2019; Potard et al., 2021), the evidence of the correlation between cyber-victimization and cyberbullying concluded from the results of measuring cyberbullying actions through a scale involving respondents with low to high levels of cyberbullying. To date, we controlled the respondents by only involving the perpetrators. Thus, the results of this study contribute to generalizing the impact of cyber-victimization on cyberbullying from the perpetrator's population.

If the experiences of cyber-victimization, as explained by Rigby (2022), drive individuals to hurt others in the form of bullying, fighting, or suppressing the willingness to hurt, then finding this study confirmed that most cyber-victimization tends to express their emotions by hurting others, especially in the form of cyberbullying. The victims do this because they want to give the experience of bullying to others using the same methods and retaliation as they experienced when they were bullied in the past (Paez, 2019). This circumstance is relevant to the explanation of the Use and Gratification Theory of cyberbullying, which cyberbullying is a deliberate action with reactive and instrumental motives (Hu, 2016).

Another finding of this study showed that emotion regulation has a moderating impact on the relationship between cyber-victimization and cyberbullying. Specifically, the higher the level of emotion regulation decreases the correlation between cyber-victimization and cyberbullying. This finding confirmed the role of emotion regulation in cyberbullying, as found in previous studies (Gül et al., 2018; Potard et al., 2021). This study's results explained that cyber-victimization's impact on cyberbullying will increase as emotion regulation weakens. This finding can be interpreted that individuals who experience cyber-victimization tend to use non-adaptive emotion regulation strategies to have a more significant potential for cyberbullying.

The research results on the impact of cyber-victimization on cyberbullying have implications for the urgency of preventing cyberbullying, especially for individuals who have experienced cyber-victimization. The moderator role of emotion regulation found in this study has implications for cyberbullying prevention programs that target individuals who experience cyber-victimization to strengthen emotion regulation abilities. The effort to strengthen emotion regulation must be provided through counseling services and peer facilitators.

**CONCLUSION**

This study was expected to clarify the impact of cyber-victimization on cyberbullying and the role of emotion regulation as a moderator variable. This study's results confirmed a highly significant positive relationship between cyber-victimization
and cyberbullying. However, the level of correlation between cyber-victimization and cyberbullying will strengthen if a weak level of emotion regulation follows it. If the level of emotion regulation is strengthened, the prediction of cyber-victimization and cyberbullying will tend to weaken.

Although this study succeeded in generalizing the relationship between cyber-victimization and cyberbullying on perpetrators and the role of emotion regulation, there are several weaknesses. First, the whole model is correlational and, therefore, unable to explain the causal relationship between cyber-victimization, cyberbullying, and the role of emotion regulation. Therefore, future research is expected to examine the impact of emotion regulation training on reducing cyberbullying in individuals who have experienced cyber-victimization. Second, this study only involved cyberbullying among university students. Therefore, further research is expected to explore cyberbullying behavior in individuals with different backgrounds, such as high school students. Finally, emotion regulation is related to self-efficacy and self-esteem, so subsequent research must involve these variables.

REFERENCES


