ABSTRACT

Background: With the pervasive integration of digital technology into daily life, cyber victimization has emerged as a significant concern, particularly among adults. Previous research underscores the relationship between cyber victimization, self-esteem, and social self-efficacy, highlighting the psychological impacts and potential gender differences in these experiences. Understanding these dynamics is critical for developing effective interventions.

Objective: This study aims to explore the associations between cyber victimization, social self-efficacy, and self-esteem among adults, investigate the role of gender in these relationships, and assess the predictive value of cyber victimization and social self-efficacy on self-esteem.

Methods: A correlational research design was employed, with a sample of 200 adults from various universities in Lahore. The Revised Cyber Bullying Inventory II (RCBI-II), Social Self-Efficacy Scale, and Rosenberg Self-Esteem Scale were utilized for data collection. Pearson product-moment correlation, multiple regression analysis, and independent sample t-tests were conducted using SPSS version 25 to analyze the data.

Results: The study found a negative correlation between cyber victimization and social self-efficacy (r = -0.18, p < 0.01), and a positive correlation between social self-efficacy and self-esteem (r = 0.24, p < 0.01). Regression analysis revealed cyber victimization as a positive predictor of self-esteem (β = 0.19, p < 0.05) and social self-efficacy as a negative predictor (β = -0.22, p < 0.01). Gender differences were noted, with boys reporting higher rates of cyber victimization than girls.

Conclusion: Cyber victimization and social self-efficacy significantly impact self-esteem among adults, with notable gender differences in the experience of cyber victimization. These findings underscore the importance of interventions aimed at enhancing self-esteem and social self-efficacy to mitigate the adverse effects of cyber victimization.

Keywords: Cyber victimization, Social self-efficacy, Self-esteem, Gender differences, Adult cyberbullying, Digital well-being.

INTRODUCTION

In the contemporary era, the penetration of electronic technologies into the daily lives of individuals, especially adolescents, is profound, with a staggering 95% of this demographic seamlessly integrating devices and the internet into their routine activities (1-2). This widespread adoption is driven by the allure of instant communication, swift information exchange, and the maintenance of social connections. However, this digital immersion has given rise to cyberbullying, defined as persistent and repeated harm inflicted through electronic means (3). This phenomenon extends to adults, highlighting a significant concern for cyber victimization rates globally. Such trends suggest that adults are not only potential perpetrators but also victims, underscoring the intricate relationship between cyberbullying and cyber victimization. Experiencing cyber victimization significantly elevates the risk of engaging in cyberbullying behaviors (4-6), thereby attracting attention from a wide spectrum of stakeholders, including researchers, educators, and the general public, due to its escalating prevalence and impact (7).
In this context, the concept of self-efficacy, as postulated by Bandura, emerges as a critical lens for understanding individual behavior in the face of cyber challenges. Self-efficacy, or the belief in one's capabilities to execute behaviors necessary for specific achievements, plays a pivotal role in navigating the digital landscape (8). This belief system, which mediates between knowledge and action, can influence an individual's engagement with electronic technologies and their vulnerability to cyber victimization. Specifically, self-efficacy affects an individual's confidence in managing online interactions, with factors such as mastery experiences, vicarious experiences, verbal persuasion, and physiological states contributing to its development (10). Perceived Social Self-Efficacy (PSSE), an extension of this concept into the social domain, is particularly relevant, as it encapsulates an individual's confidence in engaging in social interactions online, which is crucial for initiating and maintaining digital relationships (9-12).

Theoretical frameworks like the Self-Efficacy Theory (SET), a subset of Bandura's broader Social Cognitive Theory, provide valuable insights into the mechanisms underlying cyber victimization and its consequences. SET emphasizes the role of perceived self-efficacy and outcome expectations in determining behavior, including the engagement in or response to cyberbullying (12). Despite the lack of meta-analytical reviews on SET, substantial evidence supports the predictive validity of self-efficacy in behavioral outcomes (13). Another critical aspect of this discussion is self-esteem, which represents an individual's subjective evaluation of their worth. Studies have shown that cyber victimization is significantly associated with lower self-esteem, further compounded by the reduction in social support and social self-efficacy among victims. This relationship is evident across different age groups, including adolescents and college students, where the prevalence of cyber victimization was found to be significantly lower than traditional bullying (14, 15).

Empirical research further elucidates the dynamics between cyber victimization, self-esteem, and social behavior online (16). For instance, findings from Brewer (2015) indicate that loneliness, empathy, and self-esteem collectively predict the levels of cyber victimization and perpetration, with self-esteem serving as a significant negative predictor (17). Similarly, studies highlight the correlation between internet behavior, such as misrepresentation of identity, and lower levels of self-esteem, social skills, and higher degrees of social anxiety and aggression (18, 19). Conversely, a high sense of self-efficacy has been associated with lower instances of cyberbullying and victimization, underscoring the protective role of self-confidence in digital interactions (20, 21).

Given the escalating prevalence of cyber victimization amidst the surge in internet usage globally, there is a compelling need to explore its ramifications on adults. The variance in victimization rates, ranging from 6% to 41% in specific regions like Pakistan, underscores the urgency of addressing this issue (22). Previous research predominantly focuses on therapeutic interventions, highlighting a gap in theory-based investigations. Therefore, this study aims to bridge this gap by examining the impact of social self-efficacy and self-esteem on the experiences of cyber victims, offering insights into the complex interplay between individual psychological traits and cyber victimization (3, 6, 11-14).

MATERIAL AND METHODS

In the conducted study, a correlational research design was utilized to investigate the relationships among cyber victimization, social self-efficacy, and self-esteem among adults. The participants consisted of 200 adults sourced from various universities in Lahore, employing a convenience sampling method to facilitate data collection. Inclusion criteria for the study were adults aged between 18 and 25 years, ensuring a focused examination of the young adult demographic within academic settings (15). Data collection was undertaken through the use of a self-constructed demographic information sheet, designed by the researchers to gather data on participants' age, gender, education, and university affiliation. This approach facilitated a comprehensive understanding of the demographic variables potentially influencing the constructs of interest.

To assess experiences of cyberbullying and victimization, the Revised Cyber Bullying Inventory II (RCBI-II), developed by Erdur-Baker in 2010 (23), was employed. This inventory features 10 items with dual scoring columns allowing participants to report on instances of cyberbullying ("I did it") and victimization ("It happened to me"). Responses were recorded on a 4-point Likert scale, ranging from 1 ("never") to 4 ("more than three times"), enabling a nuanced measurement of the frequency of such experiences. The Social Self-Efficacy Scale, crafted by Muris in 2001 (24), was utilized to evaluate participants' perceptions of their ability to manage social situations and engage in meaningful social interactions. This 8-item Likert scale measures young adults' self-assessed capability to navigate social contexts and forge successful social relationships, reflecting the construct of social self-efficacy.

For the measurement of self-esteem, the Rosenberg Self-Esteem Scale was adopted. This 10-item scale assesses self-esteem, with scoring adjusted for the valence of items; for items 1, 2, 4, 6, and 7, scores ranged from 0 ("strongly disagree") to 3 ("strongly agree"), whereas for items 3, 5, 8, 9, and 10, the scoring was reversed to account for negative statements (25). The ethical considerations of the study adhered to the principles of the Helsinki Declaration, ensuring the protection of participants' rights, privacy, and well-being. Prior to data collection, informed consent was obtained from all participants, highlighting the voluntary nature of participation, the confidentiality of responses, and the ability to withdraw from the study at any time without consequence.
Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics were employed to summarize demographic information and the central tendencies of the measured variables. Correlational analyses were subsequently performed to examine the relationships between cyber victimization, social self-efficacy, and self-esteem, providing insights into the dynamics among these constructs within the adult university student population.

**RESULTS**

Table 1: Pearson Product-Moment Correlation among Cyber Victimization, Social Self-Efficacy, and Self-Esteem (N=200)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cyber Victimization (CyberVI)</td>
<td></td>
<td>-.18**</td>
<td>.10</td>
<td>14.7</td>
<td>5.6</td>
</tr>
<tr>
<td>2.</td>
<td>Social Self-Efficacy (SocialSE)</td>
<td>-.18**</td>
<td></td>
<td>.24**</td>
<td>24.3</td>
<td>6.0</td>
</tr>
<tr>
<td>3.</td>
<td>Self-Esteem</td>
<td>.10</td>
<td>.24**</td>
<td></td>
<td>15.2</td>
<td>2.4</td>
</tr>
</tbody>
</table>

P<0.01, *P<0.05. CyberVI=Cyber Victimization Inventory, SocialSE= Social Self Efficacy

This table presents the Pearson Product-Moment Correlation coefficients among cyber victimization, social self-efficacy, and self-esteem, based on a sample of 200 adults. It shows a negative correlation between cyber victimization and social self-efficacy (-.18**), suggesting that higher instances of cyber victimization are associated with lower social self-efficacy. Additionally, there’s a positive correlation between social self-efficacy and self-esteem (.24**), indicating that higher social self-efficacy is linked to higher self-esteem. The findings underscore the complex dynamics between these variables in the context of adult cyber victimization.

Table 2: Regression Analysis for Predictors of Self-Esteem (N=200)

<table>
<thead>
<tr>
<th>Variables</th>
<th>R²</th>
<th>ΔR</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyber Victimization (CyberVI)</td>
<td>.12</td>
<td>.10</td>
<td>.19*</td>
</tr>
<tr>
<td>Social Self-Efficacy (SocialSE)</td>
<td>-.22**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P<0.01, *P<0.05. β=Standard Coefficient, R²=R Square, ΔR=R Square Change.

Table 2 details a regression analysis focusing on the predictive power of cyber victimization and social self-efficacy on self-esteem among a sample of 200 adults. The model explains 12% of the variance in self-esteem (R² = .12), with cyber victimization showing a small but significant positive impact (.19*), and social self-efficacy demonstrating a stronger negative influence (-.22**). This analysis highlights the importance of social self-efficacy as a stronger predictor of self-esteem in the context of adult experiences with cyber victimization.

Table 3: Independent Sample t-Test Showing Gender Differences in Cyber Victimization, Social Self-Efficacy, and Self-Esteem (N=200)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Boys M (SD)</th>
<th>Girls M (SD)</th>
<th>t</th>
<th>p</th>
<th>95% CI LL</th>
<th>95% CI UL</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyber Victimization (CVI)</td>
<td>15.4 (6.8)</td>
<td>14.2 (2.5)</td>
<td>.14</td>
<td>.15</td>
<td>-.42</td>
<td>2.7</td>
<td>.23</td>
</tr>
<tr>
<td>Social Self-Efficacy (SSE)</td>
<td>23.5 (5.1)</td>
<td>24.9 (6.6)</td>
<td>-1.5</td>
<td>.13</td>
<td>-.03</td>
<td>4</td>
<td>.23</td>
</tr>
<tr>
<td>Self-Esteem (SE)</td>
<td>16.6 (2.1)</td>
<td>15.6 (2.5)</td>
<td>-3.05</td>
<td>.03</td>
<td>-.14</td>
<td>-.36</td>
<td>.43</td>
</tr>
</tbody>
</table>

P<0.01, *P<0.05. CI=Confidence Interval, LL=Lower Limit, UL=Upper Limit. CVI=Cyber Victimization Inventory, SSE=Social Self Efficacy, SE=Self Esteem.

Table 3 presents gender differences in cyber victimization, social self-efficacy, and self-esteem among 200 adults through an independent sample t-test. Boys reported slightly higher cyber victimization (M = 15.4, SD = 6.8) compared to girls (M = 14.2, SD = 2.5), but the difference was not statistically significant (p = .15). Conversely, girls exhibited higher social self-efficacy (M = 24.9, SD = 6.6) than boys (M = 23.5, SD = 5.1), with no significant difference (p = .13). Significant gender differences were observed in self-esteem, where boys had higher self-esteem (M = 16.6, SD = 2.1) than girls (M = 15.6, SD = 2.5), with a p-value of .03 and a Cohen’s d of .43, indicating a moderate effect size.

**DISCUSSION**

The findings of the present study underscore the intricate dynamics between cyber victimization, social self-efficacy, and self-esteem, contributing significantly to the burgeoning corpus of literature within the social and occupational spheres. Drawing parallels with Brewer’s (2015) study, which highlighted loneliness, empathy, and self-esteem as pivotal predictors of cyberbullying victimization and perpetration, the current research delineates a similar narrative emphasizing the critical role of self-esteem. Specifically, low self-esteem emerged as a salient predictor of increased susceptibility to cyberbullying, underscoring the potential of self-esteem and empathy-oriented interventions in mitigating such adversities (12). This is further corroborated by the gender-specific variances
observed, where cyber victimization prevalently affected boys more than girls, aligning with the findings of previous research which also reported gender disparities in victimization experiences (14-16).

The study's regression analysis illuminated cyber victimization as a positive and significant predictor of self-esteem, whereas social self-efficacy emerged as a negative and markedly significant predictor. These findings are in consonance with Yılmaz (2018), who noted a high level of self-efficacy correlating with reduced instances of cyberbullying and victimization. Furthermore, Kokkinos (2016) discovered a negative correlation between bullying behaviors and self-efficacy, with boys reporting higher rates of direct and indirect bullying along with victimization. These insights enrich the discourse by elucidating the protective function of social self-efficacy against the deleterious impacts of cyber victimization on self-esteem (17).

Despite the study's contributions, certain limitations warrant consideration. The constraints of time and the protracted nature of the permission process impeded the study's breadth. Additionally, the exclusive focus on universities within a single city and the reliance on self-report measures for cyber victimization, social self-efficacy, and self-esteem may have introduced biases, including social desirability. The participation dynamics further complicated the research, as some individuals displayed a lack of engagement, potentially skewing the data. The presence of extraneous variables, such as participant non-cooperation and infrastructural deficits, further affected the research process (18).

In light of these findings and limitations, the study offers several recommendations for future research and practice. It underscores the importance of developing interventions aimed at bolstering self-esteem and social self-efficacy to combat cyber victimization. Educational institutions and social authorities are impelled to take proactive measures in raising awareness and implementing strategies to curtail cyber victimization. Future research endeavors could extend beyond single-city universities to encompass a more diversified sample, thereby enhancing the generalizability of the findings. Moreover, incorporating alternative assessment tools and methodologies may mitigate the limitations associated with self-report measures, offering a more nuanced understanding of the phenomena under investigation.

The study significantly advances our understanding of the detrimental effects of cyber victimization on self-esteem and social self-efficacy, while highlighting the protective role of social self-efficacy. Through a meticulous examination intertwined with prior research, the study not only elucidates the complexities of cyber victimization but also paves the way for future explorations and interventions aimed at mitigating its impact within the social fabric.

CONCLUSION

The study elucidates the intricate interplay between cyber victimization, social self-efficacy, and self-esteem, highlighting the protective role of social self-efficacy in mitigating the negative impacts of cyber victimization on self-esteem. This research bears significant implications for human healthcare, emphasizing the need for the development and implementation of targeted interventions aimed at enhancing self-esteem and social self-efficacy to combat the prevalence of cyber victimization. Such interventions are crucial in fostering resilient individuals and communities, thereby reducing the psychological and emotional toll of cyberbullying and contributing to the overall well-being and mental health of the populace.

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