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Cyberbullying During COVID-19 Pandemic: Relation to Perceived Social Isolation Among College and University Students

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Keywords: cyberbullying victimization; COVID-19; isolation; young adults

Abstract:
One tell-tale sign of the impact of the COVID-19 pandemic is the heavy reliance on electronic devices. Young adults in particular have indicated a greater presence on social media and high levels of loneliness during the pandemic. This trend has raised concerns about increased feelings of social isolation and reliance on technology, which could lead to more internet or computer crimes—including cyberbullying. Despite a growing body of literature, little is known about the association between cyberbullying victimization and social isolation among young adults—with even less known about this phenomenon in the context of the ongoing pandemic. Drawing on survey responses from adults, this study explored the differences between cyberbullying victimization experiences before and during the pandemic, as well as the relationship between perceived social isolation and social media. The findings of the study suggest that 1) the majority of participants felt more isolated, with most of the sample reporting increased social media use as a consequence of the pandemic; 2) cyberbullying victimization significantly decreased during the pandemic; 3) perceived social isolation was moderately predictive of cyberbullying experiences during the pandemic when pre-pandemic experiences were omitted from the analysis. While the applied sampling method raises concerns about the study’s generalizability, the findings underline that higher education institutions should be vigilant in terms of increased perceived social isolation and cyberbullying victimization experiences during the pandemic.

Introduction

On March 11, 2020, the World Health Organization [WHO] (2020) officially declared that the Coronavirus Disease 2019 (COVID-19) represents a global pandemic. The disease is caused by a virus, also referred to as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and at the time of writing, there have been over 300 million confirmed cases of COVID-19 worldwide (Centers for Disease Control and Prevention, 2021; WHO, 2022). To help curtail the spread of the ongoing COVID-19 pandemic, companies, educational institutions, and governmental agencies shifted from in-person to virtual delivery methods by proliferating their online repertoires and services. The pandemic sparked discussion about the future of remote learning and working and may even be preferred by people with caregiving responsibilities or students who need to reconcile time spent on coursework with their specific life circumstances (Morris et al., 2021).

Digital advancements have engendered various benefits, such as the rapid allocation and accessibility of information; at the same time, the ubiquitous reliance on electronic devices greatly increased the number of cybercrimes and cyberbullying (Wang, 2007). The increase likely intensified with the occurrence of the COVID-19 pandemic. Indeed, with the increasing use of internet technologies in the COVID-19 pandemic context, the number of cybercrimes also dramatically increased (Shivers, 2020).
Scholarly attention generally focuses on cyberbullying among minors in school settings, with adolescents being one of the most researched age groups in cyberbullying research. Notwithstanding, research shows that cyberbullying is an omnipresent societal issue and not restricted to adolescents (Arntfield, 2015; Giumetti et al., 2022). Some of the research that has been conducted suggests that a considerable proportion of undergraduate students have their first cyberbullying experiences during college, illustrating the necessity for cyberbullying research in postsecondary education settings (Kowalski et al., 2012; Varghese & Pistole, 2017). By measuring cyberbullying victimization before and during the pandemic among young adults, the study examines whether the pandemic increased cyberbullying, made cyberspace safer, or had no significant effect on cyberbullying involvement.

Exploring cyberbullying during this increased use of technology is necessary given the substantiated correlation between technology use, and cyberbullying victimization among young adults (Giumetti et al., 2022). In particular, literature shows the increased use of social networking sites as a ramification of the pandemic (Lemenager et al., 2021; Tuck & Thompson, 2021). Past research further demonstrates a relationship between social media usage and perceived social isolation, colloquially referred to as loneliness. During the pandemic, social media consumption has been associated with greater feelings of loneliness (Ma et al., 2020; Lisitsa et al., 2020).

Some existing studies measured social media usage and perceived social isolation during the pandemic, with results indicating that loneliness is a predictor of excessive social media usage (Boursier et al., 2020). Findings on the association between isolation and cyberbullying tend to be more ambiguous. While some researchers claim that loneliness is insufficient to predict cyberbullying victimization, others argue that loneliness is a significant predictor of victimization (Brewer & Kerslake, 2015; Sahin, 2012).

To the best of the author’s knowledge, no empirical study has explored the relationship between cyberbullying victimization experiences, perceived social isolation, and social media usage among young adults, especially during the pandemic. The current study examines cyberbullying experiences during the COVID-19 pandemic to measure the level of cyberbullying in a period when students were increasingly required to engage with the online environment and may feel more isolated. It was assumed that individuals potentially engage more in cyberbullying if they use social media and feel socially isolated. This is an emerging area of study and essential considering the high levels of loneliness and social media usage among young adults even in pre-pandemic times (Varghese & Pistole, 2017).

**Literature Review**

*The Ubiquity of Cyberbullying*

The saturation of the internet and technology has enabled traditional bullying to occur beyond school premises, and this has laid the foundation for electronic bullying, also known as cyberbullying (Patchin et al., 2020). With emerging technology, bullying can now occur through social media, email, or text message, and it can be perpetrated 24 hours per day, seven days per week (Moreno, 2016; Watts et al., 2017). As users have come to rely increasingly on electronics, they have often disregarded the possible dangers and effects of these technologies, which include cyberbullying (Ferrara et al., 2018).
Although cyberbullying research focuses on youth and adolescents in school settings, cyberbullying occurs across the lifespan (Whittaker & Kowalski, 2015). A national survey in New Zealand showed that 14.9% of adults reported being a victim of cyberbullying during their lifetime, with 2.2% experiencing it within the past month (Wang et al., 2019b). Notably, Kraft and Wang (2010) outline, the roles of cyberbullying in high schools are often maintained in postsecondary education. Nevertheless, early prevention strategies in adolescence might be most valuable and can still potentially limit cyberbullying experiences in adulthood (Meter et al., 2021).

Historically, scholarly attention has focused on the bullying of children and adolescents in school settings. In recent years, this interest has expanded to include cyberbullying as an electronic form of bullying and is partially ascribed to its high-profile cases, as well as to the perception of its pernicious consequences. Yet, neither the scholarly nor criminal justice context has agreed on a uniform definition or classification for cyberbullying, making the identification and reporting of cyberbullying convoluted (Addington, 2013).

**Defining cyberbullying.** Traditional bullying can be executed by individuals or a group with the aim of inflicting harm over a period of time, and it includes a power imbalance between perpetrator and victim (Hinduja & Patchin, 2010). The central elements of traditional bullying—namely, inflicting harm, a power imbalance, repetition, and intentional acts—might be less apparent in cyberbullying incidents. The anonymity and the enduring availability of content may have longstanding effects on cyberbullying victims and make the determination of repetition and intentional harm in cyberbullying cases more complex (Menin et al., 2021). Cyberbullying is generally viewed as either a subtype of traditional bullying or an individual phenomenon based on its unique circumstances and environment (Ansary, 2020).

Social media is the most commonly used venue for cyberbullying (Kowalski et al., 2019). Such cyberbullying frequently occurs via social media, text messages, emails, online gaming communities, or chatrooms (U.S. Department of Health and Human Services, 2021). Specifically, sending harassing, threatening, and offensive messages and sharing or uploading humiliating photos and videos are activities that are commonly characterized as cyberbullying (Myers & Cowie, 2017; Patchin et al., 2020).

Until today, there is no universally agreed definition of cyberbullying (Aboujaoude et al., 2015). The lack of consensus is not merely observable among scholars and practitioners; rather, it is also reflected in participants’ perceptions of cyberbullying. Supported by Meter et al. (2021), undergraduate students’ definitions of cyberbullying generally reflected personal experiences rather than a comprehensive view of cyberbullying with its multifaceted forms.

That being said, relevant literature often employs Tokunaga’s (2010) definition of cyberbullying (see Peter & Petermann, 2018, for more). Posed by Tokunaga (2010), cyberbullying is “any behavior performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others” (p. 278). In other words, electronic devices are used to harass, offend, or threaten somebody (Holladay, 2011).

Based on systematic literature research on 24 definitions, Peter and Petermann (2018) more recently developed a definition of cyberbullying that incorporates feelings of embarrassment. They identified five shared characteristics (i.e., information and communication technologies, repetition, intent, harm, and tar-
Admitting that Tokunaga’s (2010) definition is often cited in the literature, the current study expanded Holladay’s (2011) laconic definition of cyberbullying to avoid the complexity, length, and potential confusion caused by existing definitions. Holladay (2011) notes: “Simply put, cyberbullying is the repeated use of technology to harass, humiliate, or threaten” (p. 4). Accordingly, the survey defined cyberbullying as the intentional and repeated use of electronic technology to harass, offend, or threaten someone. The word electronic was incorporated into Holladay’s (2011) definition to emphasize the electronic form of bullying. Offend replaced humiliating someone to emphasize intentionally causing harm rather than diminishing someone’s reputation, thereby relating to the notion of embarrassment, as outlined by Peter and Petermann (2018).

To date, there is no nuanced distinction between cyberbullying and other forms of digital conflict, including cyber harassment, and whether cyberbullying is limited to children and adolescents. Smith (2009) pointed out that cyber harassment and cyberbullying are regarded as fungible in some contexts, but in others, cyberbullying solely refers to harassment between children or adolescents, whereas cyber harassment involves adults. In this article, cyberbullying refers to incidents between two individuals, regardless of their age, although the study limited cyberbullying to college and university students.

The lack of uniform agreed definitions, substantial disparities, such as sample age and size, and divergent time measurements are still considered current obstacles in cyberbullying research and presumably engender the large variation in prevalence rates (Addington, 2013; Ansary, 2020).

Prevalence rate. As the literature on cyberbullying evolves, it is becoming clear that prevalence rates vary across the lifespan. At the same time, most studies suggest that adolescence is the riskiest stage of life for experiencing cyberbullying, with prevalence rates for victimization ranging from 5% to 72% (Wolke et al., 2017). According to a recent study, 62% of 10th graders experienced cyberbullying during COVID-19 (Utemissova et al., 2021). As a result, cyberbullying research tends to be primarily concerned with children and adolescents (Newman et al., 2005).

Cyberbullying in colleges and universities is less extensively studied in research. In this context, Giumetti et al. (2022) highlight the lack of longitudinal studies with samples of college and university students as a gap in cyberbullying literature. Taking that into consideration, in one study, 30% of undergraduate students reported having their first victimization experiences during college, illustrating the need for cyberbullying research in college and university settings (Kowalski et al., 2012).

The rate of cyberbullying victimization in college and university settings fluctuates across studies. Turan et al. (2011) reported that 59.8% of 18- to 30-year-old students in Istanbul were cyberbullied. Reporting a lower figure, a US study concluded that 14% of university students experienced being cyberbullied at least once in college (Myers & Cowie, 2017; Zalaquett & Chatters, 2014).

In terms of the latest research, Giumetti et al. (2022) discovered that 42.9% of senior students reported cyberbullying victimization during the pandemic. In line with this, a recent study with German adolescents suggested that the COVID-19 pandemic did not influence the frequency of cyberbullying victimization.
However, the study measured victimization without including a timeframe before the COVID-19 pandemic, making inferences from before to during the pandemic potentially problematic (Schunk et al., 2022). A study involving youth 17 years of age or older found that only a small percentage reported more cyberbullying experiences during the pandemic than before, but the overall differences between cyberbullying experiences were marginal (Englander, 2021).

The results mentioned above give concerning estimates and suggest the ubiquity of cyberbullying victimization, even in higher education. More studies are needed on cyberbullying victimization and its association with the pandemic, including research aimed to better understand the prevalence rate during a phase of increased online presence (Varghese & Pistole, 2017). The current study attempts to fill this gap.

**Social Media Usage, Cyberbullying, and the COVID-19 Pandemic**

In addition to feelings of perceived social isolation, social media consumption could alter cyberbullying experiences during the pandemic. Based on the onset of the COVID-19 pandemic, individuals have been required to use more electronic devices than before, with current research supporting increased internet and social media usage as a ramification of the pandemic (Jain et al., 2020). In a study by the Pew Research Center in 2021, 90% of American adults revealed that the internet is an important aspect of their life during the pandemic (Auxier & Anderson, 2021).

Related literature has also examined the association between technology usage and cyberbullying victimization experiences and showed mixed results (Cagirkan & Bilek, 2021; Watts et al., 2017). As Holt et al. (2016) noted, “the risks of cyberbullying victimization appear to increase as youth gain more access to different forms of technology as they age” (p. 608). A web-based survey with 15- to 25-year-old participants from the United States, Finland, Spain, and South Korea supports the idea that the risk of being victimized increases with social media usage (Marengo et al., 2021).

While some of the research that has been conducted found a correlation between cyberbullying victimization and technology usage, other researchers stress that only some technology forms increase the likelihood of cyberbullying (Davis & Koepke, 2016; Watts et al., 2017). Adolescents who engage in increased cell phone usage tend to be more likely to experience cybervictimization, but there has been no significant relationship found between time spent on the internet and victimization experiences (Davis & Koepke, 2016). Research has also revealed that technology use, cell phone usage, and time spent on the internet was not associated with cybervictimization among senior college students (Giumetti et al., 2022).

The increase in students’ online time is often associated with loneliness (i.e., perceived social isolation; Barlett et al., 2021; Varghese & Pistole, 2017). Loneliness is considered a risk factor for addictive and erratic internet behavior, and related literature further shows an association between loneliness and social networking sites (Brewer & Kerslake, 2015). That being said, the relationship between social media usage and loneliness may be more convoluted than this. More social media usage was also identified as involving increased support seeking with online connections, substituting for in-person relationships, or strengthening offline bonds (Keles et al., 2020; Lisitsa et al., 2020). Stated differently, social media “can also function as a source of fulfilling individuals’ social and psychological needs, such as belongingness, self-esteem, and avoiding loneliness” (Mikkola et al., 2020, p. 2).
Conversely, in another study, adults reported feeling lonelier, arguing that video calls cannot replace face-to-face interactions during the pandemic (Schellekens & van der Lee, 2020). A study in Italy found that the adult sample increased the time spent on social media during the pandemic, with loneliness being a significant predictor of excessive social media usage (Boursier et al., 2020). In particular, Lisitsa et al. (2020) reported that increased social media and decreased social support seeking were significant predictors of loneliness during the pandemic. If individuals feel lonely, they may engage more on social media with the aim of increasing social connectedness (Varghese & Pistole, 2017).

The COVID-19 Pandemic and Perceived Social Isolation

Humans are a social species, and at the most primitive level, they require interactions with other human beings to survive (Cacioppo & Hawkley, 2009). Scholars and practitioners have characterized social support as a determinant of health, and in recent years, they have retrospectively declared social isolation pernicious to the well-being of individuals (Smith et al., 2020). Although there is no consensus on the measurement of social isolation, it is generally investigated through either the quantity or quality of social relationships.

The measurement that refers to the amount of interaction is defined as external or objective social isolation and is often quantitatively captured through the frequency of contact. Internal or perceived social isolation refers to a subjective evaluation of a deficit in social contacts (Nazzal et al., 2017). In other words, perceived social isolation is the subjective perception of the quality of social ties. It includes obnoxious feelings caused by insufficient relationships or situations in which the desired intimacy is not given (De Jong Gierveld & Van Tilburg, 2006). Despite the fact that perceived social isolation is often measured in later life, it is not limited to a specific age category (De Jong Gierveld & Van Tilburg, 2006). Surprisingly, whereas young adults generally have a substantial network of social ties, some studies revealed that young adults have high levels of loneliness (Child & Lawton, 2019; Clair et al., 2021).

Perceived social isolation is often colloquially referred to as loneliness, but some scholars differentiate between social isolation and loneliness. Specifically, social isolation refers to alienation when there are fewer relationships than desired, whereas loneliness occurs when social connections are perceived as limited. Yet, these two issues tend to coincide and are often entangled (Matthews et al., 2016).

In the light of recent measures to curtail the spread of COVID-19, including lockdowns and social distancing, scholars assume that perceived social isolation is potentially surging. In an online survey involving 303 college students, Labrague et al. (2021) reported that the COVID-19 pandemic has resulted in a significant increase in feelings of loneliness. Loneliness was prevalent among the sample, with 56.7% of students experiencing moderate loneliness and 23.6% feeling severely lonely (Labrague et al., 2021). In Clair et al.’s (2021) study, young adults (18-29 years of age) experienced more perceived social isolation than any other age group among adults (30-84 years of age). This social isolation was further related to a decline in life satisfaction and increased substance usage (Clair et al., 2021).

The higher feelings of perceived social isolation during the pandemic may further influence cyber engagement, including cyberbullying (Hughes et al., 2004; Newman et al., 2005). With respect to cyberbullying, the importance of perceived social isolation for it is inconsistent. For instance, Brewer and Kerslake (2015) emphasized the importance of loneliness for research considering that it is prevalent phenomenon in...
the world. Their study found that a combination of loneliness, decreased empathy, and low levels of self-esteem can predict cyberbullying experiences, but loneliness alone is not a strong predictor of cyberbullying (Brewer & Kerslake, 2015). Interestingly, Varghese and Pistole (2017) reported a high level of depression and loneliness in cyberbullying victims.

The current study focused on perceived social isolation to measure the subjective perception of people’s social worlds and further examined whether perceived social isolation has influenced cyberbullying involvement and social media usage during the pandemic. Boursier et al. (2020) suggest that lockdowns cause feelings of loneliness and lead people to increasingly engage with social media to seek social belonging; the aim of doing so is to reduce the deficit between desired and actual social contact (Lisitsa et al., 2020; Mikkola et al., 2020).

Ultimately, it is necessary to examine the correlation between social media usage, and feelings of loneliness among young adults, given that this age category generally indicates high levels of loneliness and social media presence (Lisitsa et al., 2020).

**Current Study**

Based on relevant literature on the relationship between cyberbullying and social isolation, it was hypothesized that perceived social isolation likely increased cyberspace engagement, and along with it, cyberbullying victimization experiences during the pandemic (Brewer & Kerslake, 2015; Varghese & Pistole, 2017). The social relationship quality may influence cyberbullying experiences and engagement in cyberspace. By incorporating cyberbullying victimization experiences, social media usage, and perceived social isolation, the present study attempted to address the following research hypotheses:

- **H1**: Cyberbullying victimization has increased during the COVID-19 pandemic.
- **H2**: Social media usage is positively associated with cyberbullying victimization (both before and during the pandemic).
- **H3**: Perceived social isolation is positively associated with cyberbullying victimization (both before and during the pandemic).

The hypotheses were examined using data from a survey in 2021. In April 2021, an online survey was administered and formed the basis of this study. The power analysis was calculated using G*Power 3.1.9.7. G*Power results show that a total sample size of at least 119 was needed. The study sample consisted of 331 participants and was adequately powered (see Hahs-Vaughn & Lomax, 2020, for more). In addition to power calculation, a decision tree machine learning model was applied to the initial 3840 survey entries to identify potential bot responses. The final sample consisted of 331 responses.

For the study, the sample was limited to currently enrolled college and university students residing in the United States who were (at the time of the study) at least 18 years of age. In this study, all students (i.e., from freshman to graduate) were eligible to participate, although English proficiency, literacy, and access to an electronic device were prerequisites.
After the study was reviewed and deemed exempt by the Institutional Review Board, the study participants were recruited through nonprobability sampling. Due to the confidentiality of student information, student lists could not be obtained, and convenience sampling was used, resulting in limited generalizability to the population of interest. An email recruitment script with the survey link and informed consent form was sent to students, professors, student organizations, and the student government located within the Midwestern US. Increased access to students within and outside of the university was facilitated through the promotion of a shortened email script on social media platforms.

At the end of the survey, participants were redirected to a separate contact form for the opportunity to participate in a raffle that was not connected to their survey responses. The researcher also guaranteed anonymity by not collecting personally identifying information, including names or IP addresses. The data utilized for this study reflect the initial responses of the sample, and to the best of the researcher’s knowledge, disclose honest experiences.

**Measures**

**Dependent variable.** In the study, cyberbullying victimization experiences prior to (i.e., before March 2020) and during (i.e., since March 2020) the COVID-19 pandemic were compared. The dependent variable was measured by cyberbullying victimization experiences during the pandemic, and it was constructed using a scale consisting of four items. The statements were adapted from Hinduja and Patchin’s (2010) questionnaire for cyberbullying offending and victimization, with higher values indicating more cyberbullying experiences (Hinduja & Patchin, 2010).

Participants in the study were instructed to select one of the multiple-choice answers for each of the four statements to describe their behavior or experiences during the pandemic (i.e., since March 2020). Cyberbullying victimization was measured through the following items: (a) Been made fun of online, (b) Had something posted about you online that you did not want others to see, (c) Received a message that made fun of you, and (d) Had something posted about you online that made you upset. Each participant responded to the statements using a 5-point Likert scale from (1) never to (5) every day.

**Independent variables.** Cyberbullying experiences before the pandemic, social media usage, and perceived social isolation were gathered as independent variables. For the cyberbullying experiences before the pandemic, participants were asked to select one of the multiple-choice answers for each statement to describe their behavior or experiences before the pandemic (i.e., before March 2020). The statements were identical to those relating to experiences during the pandemic and answered on a 5-point Likert scale from (1) never to (5) every day.

Social media usage data were captured through the question: How much time do you spend on social media platform(s) on average each day? The response was scored on an eight-point scale from (0) no social media to (8) 8 or more hours. An additional question measured the influence of the pandemic on social media usage by noting the perception of participants: How would you say has the pandemic influenced the amount of time you spend on social media platforms? The measure was coded as follows: (1) increased, (2) the same, (3) decreased, and (4) not applicable.
Perceived social isolation was measured through the Three-Items Loneliness Scale. Research has shown that the R-UCLA Loneliness Scale is a reliable and valid measurement of perceived social isolation (De Jong Gierveld & Van Tilburg, 2006; Ma et al., 2020). Higher scores on the scale indicate more feelings of loneliness (Russell et al., 1978). Considering that the R-UCLA scale consists of 20 items, the shortened version (the Three-Items Loneliness Scale) is a well-established measurement for more extensive surveys (De Jong Gierveld & Van Tilburg, 2006; Ma et al., 2020). In the survey here, perceived social isolation was measured through Hughes et al.’s (2004) three-item scale and included: (a) During the pandemic, how often do you feel that you lack companionship?; (b) During the pandemic, how often do you feel left out?; and (c) During the pandemic, how often do you feel isolated from others? Each item was scored on a four-point scale from (1) never to (4) often.

To measure whether participants perceive differences in social isolation due to the pandemic, the survey also included the question: How would you say has the pandemic influenced your feelings of loneliness/isolation? Responses to the question were as follows: (a) I have been feeling more lonely/isolated during the pandemic than before, (b) The pandemic has not impacted my feelings of loneliness/isolation, and (c) I have been feeling less lonely/isolated during the pandemic than before.

**Demographics and additional measurements.** Following the cyberbullying statements relating to before and during the pandemic, the perception of the role in cyberbullying incidents was identified using one question. The question is based on Smith and Yoon’s (2013) questionnaire and focuses on participants’ perceptions of their role(s) in cyberbullying incidents. This was measured by the response to the question: Cyberbullying can appear in various forms. Based on your answers above, how would you define your role in cyberbullying before/during the pandemic? You may select more than one answer. The responses ranged from (1) witnessed cyberbullying, (2) victimized by cyberbullying, (3) exhibited cyberbullying behavior, to (4) one of the above. Each response was dummy coded from (0) absence to (1) presence. Despite the fact that the demographics were not included in the bivariate analysis, seven variables (the state in which the respondent is studying, state of residency, age, gender, ethnicity, country of birth, and year of study) were collected to enable an examination of the sample.

**Analytic Strategy**

Following the descriptive statistics, bivariate statistics were used to explore the differences between victimization experiences before and during the pandemic, as outlined in H1, and estimated using R (version 4.1.1, 2021-08-10). Specifically, the bivariate relationships were examined using paired t-tests. Finally, simple linear regression and multiple linear regression models were estimated to assess H2 and H3. These models were concerned with the association between victimization experiences, social media usage, and perceived social isolation. In the study, loneliness, social media usage, and victimization experiences before the pandemic were first modeled as individual predictors of victimization experiences during the pandemic and subsequently combined into a new model.

**Data**

Approximately two-thirds of the sample reported the United States as their birthplace. The respondents’ ages ranged from 18 to 55 years, with a mean of 24 years (SD = 5.55). Students between 18-24 years of age (60.4%), women (69.4%), white or Caucasian students (45.3%), and sophomores (23.9%) represented...
the largest proportions in the sample. Most of the sample were students at the Midwest university (91.2%). This is consistent with the institutional data of the Midwest university. The majority of the 8,331 Midwest university students (66.3%) are between 18 and 29 years of age, and 62.5% of the university’s students consider themselves white. Contrary to the institutional data, most of the current study sample were women (The Regents of the University of Michigan, n.d).

Research Findings

Table 1 displays the descriptive statistics for the study variables. Social media usage generally remained high during the pandemic. Of the sample, most participants (38.4%) used social media platforms for 3 to 4 hours each day. Most participants (70.1%) also said that the pandemic had increased the amount of time spent on social media.

Table 1. Demographics and Descriptive Statistics for Variables (N = 331)

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<td>25-34</td>
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<tr>
<td>Gender</td>
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<td>Male</td>
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<tr>
<td>Other</td>
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<tr>
<td>Victimization Before</td>
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<tr>
<td>Social Isolation</td>
<td>2.31</td>
<td>1.06</td>
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<tr>
<td>Social Media Usage</td>
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<tr>
<td>Perceived Social Isolation</td>
<td>2.46</td>
<td>.83</td>
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<td>Social Media Usage During</td>
<td>4.03</td>
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<td>Influence Pandemic</td>
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<td>(Perception)</td>
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<tr>
<td>Social Isolation</td>
<td>1.51</td>
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<td>Social Media Usage</td>
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<td>Perception as Victim</td>
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<td>Before</td>
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<td>During</td>
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Notes. Percentages may not equal 100 because of the exclusion of ‘prefer not to answer’ choices, missing values, or rounding.
Of those participating in the study, most revealed that during the pandemic, they sometimes felt they lacked companionship (38.7%), felt left out (35.6%), or felt isolated from others (34.1%). A sizeable proportion (82.2%) reported that they rarely, sometimes, or often lacked it. Supported by the question about the influence of the pandemic on feelings of loneliness and isolation, 51.7% of the sample felt more lonely/isolated during the pandemic than they had before.

**Bivariate Analyses**

More participants reported receiving a message that made fun of them and having something posted about them online that made them upset during the pandemic. Despite the increase in daily experiences during the pandemic, the differences were deemed nonsignificant according to one-sided paired t-tests. This shows that cybervictimization statistically significantly decreased during the pandemic (t (329) = 2.79; df = 329; p < .002). When participants were asked about their role in cyberbullying incidents, including being a witness, victim, or perpetrator, responses regarding victimization increased from 24.8% to 26.2% during the pandemic. However, the differences were deemed not statistically significant in paired t-tests (t (330) = -.069; p < .49).

Table 2 displays the correlation of study variables. Cyberbullying victimization before and during the pandemic were highly correlated. Perceived social isolation had a positive relationship with victimization before and during the pandemic, and social media usage had no significant relationship with cyberbullying victimization or perceived social isolation.

**Table 2. Pearson’s Correlation of Study Variables (N = 331)**

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<tbody>
<tr>
<td>1) Victimization During</td>
<td>-</td>
<td>.03</td>
<td>.32**</td>
<td>.89**</td>
</tr>
<tr>
<td>2) Social Media Usage</td>
<td>.03</td>
<td>-</td>
<td>.02</td>
<td>-.00</td>
</tr>
<tr>
<td>3) Isolation</td>
<td>.32**</td>
<td>.02</td>
<td>-</td>
<td>.34**</td>
</tr>
<tr>
<td>4) Victimization Before</td>
<td>.89**</td>
<td>-.00</td>
<td>.34**</td>
<td>-</td>
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*Notes. *p < .05 **p < .01.

**Regression Analyses**

Simple linear regression was applied to examine whether cyberbullying experiences before the pandemic predicted victimization experiences during the pandemic. The research findings suggest that victimization experiences before the pandemic are a good predictor of victimization experiences during the pandemic (β = .91; p < .001). Simple linear regression also indicated a positive significant relationship between perceived social isolation and victimization during the pandemic (β = .42; p < .001). All variance inflation factor values in the study were below 5, illustrating that multicollinearity was not an issue (James et al., 2017).
Table 3 shows the results of the standard multiple regression. The regression analyses examined what relationship, if any, exists among cyberbullying victimization during the pandemic (i.e., dependent variable) and social media usage, perceived social isolation, and victimization experiences before the pandemic (i.e., independent variables). Following the bivariate correlation, Model 1 indicated that social media usage was not a statistically significant predictor for victimization during the pandemic, whereas perceived social isolation was ($\beta = .32$; $p < .01$). Perceived social isolation was able to explain 10% of victimization during the pandemic ($R^2_{adj} = .10$).

Regression Model 2 examined the predictive relationship between perceived social isolation, social media usage, and previous victimization experiences. As shown in Table 3, there was a statistically significant positive relationship between cyberbullying victimization before and during the pandemic ($\beta = .89$; $p < .01$). However, perceived social isolation was no longer a significant predictor for cyberbullying victimization during the pandemic when prior victimization experiences were included in Model 2. The variables in Model 2 accounted for 80% of the variation in cyberbullying victimization during the pandemic ($R^2_{adj} = .10$). These results suggest that victimization experiences before the pandemic were generally more predictive than feelings of social isolation for experiences during the pandemic.

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Model 2</th>
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<tbody>
<tr>
<td>Variables</td>
<td>B</td>
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<tr>
<td>Intercept</td>
<td>1.11**</td>
</tr>
<tr>
<td>Social Media Usage</td>
<td>.02</td>
</tr>
<tr>
<td>Perceived Social Isolation</td>
<td>.42**</td>
</tr>
<tr>
<td>Victimization Before</td>
<td>.90**</td>
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<tr>
<td>$R^2$</td>
<td>.10**</td>
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Notes. *$p < .05$ **$p < .01$.

Discussion

The current study sought to quantitatively address the gap in the literature concerning the relationship between cyberbullying experiences, perceived social isolation, and social media usage during the COVID-19 pandemic. It was assumed that cyberbullying victimization has increased during the COVID-19 pandemic, and perceived social isolation is positively associated with cyberbullying experiences and social media usage.

First, it was hypothesized that cyberbullying victimization increased during the pandemic. In accordance, most of the sample reported experiencing cyberbullying victimization experiences before and during the pandemic. Some studies, including the School Crime Supplement of the National Crime Victimization Survey, indicate a general increase in victimization over the last two decades (Wang et al., 2019a). As emphasized throughout this article, estimates of cyberbullying victimization among young adults can vary across studies, and caution must be exercised in determining a general pattern over time, considering the limited comparability between the studies (see Cyberbullying Research Center, n.d, for more).
In opposition to the assumption, the research findings did not support hypothesis 1. While the participants’ perceptions of being victims increased during the pandemic, when tested, this was deemed statistically nonsignificant. Similarly, the research findings did not support an increase in cyberbullying victimization, as measured by the victimization statements. Interestingly, while some victimization experiences, including daily experiences, were accelerated during the pandemic, the overall experiences suggested a general decline. Contrary to hypothesis 1, the results suggested a marginal but significant decline in cyberbullying victimization from before to during the pandemic.

In line with these research findings, Giumetti et al. (2022) discovered that although nearly half of an adult sample had experienced cyberbullying victimization during the pandemic, this represented a decline compared with before the pandemic. A German study further found that the pandemic had not influenced the frequency of cyberbullying victimization (Schunk et al., 2022). For students in Grades 4-12, Vaillancourt et al. (2021) concluded that differences in cyberbullying (i.e., victimization and perpetration) before and during the pandemic were marginal, with cyberbullying before the pandemic being slightly higher. This aligns with the UNICEF Canada (2020) report that showed that 93% of Canadian youth between 13 and 24 had not experienced cyberbullying since the lockdown, with 17% saying that they experienced less bullying during the pandemic.

Despite the increase in social media use among the current study’s sample, the decrease in victimization is potentially explained by individuals’ behaviors. Holt and Bossler (2008) argued that the amount of time spent on social media does not necessarily influence cybervictimization per se; rather, it depends on the online settings in which individuals are involved. During the pandemic, individuals might have increased their passive social media usage by increasingly using social media to watch videos or obtain necessary information rather than actively engaging in commenting or discussions with other users.

Some social media sites might also be safer than others, depending on the activity they engage in, indicating that people could potentially be engaged in safer online behavior during the pandemic. For instance, social networking sites were presumably used to communicate with family or friends during lockdowns, compared to using social media forums to exchange ideas with strangers. This may potentially explain the increase in social media use and, at the same time, the decrease in victimization experiences. Future research on cyberbullying victimization during the pandemic could include measures of participants’ activities to better understand which online activities are prevalent and associated with cyberbullying rather than the frequency of usage.

At the same time, parents and teachers could have potentially increased their supervision of online activities during the pandemic. The increase in supervision, smaller class sizes, and family members staying at home could have influenced cyberbullying experiences and resulted in a decrease in perpetration (Vaillancourt et al., 2021). Similarly, the increase in social media usage with no significant increase in cyberbullying victimization rates could stem from the consideration that cyberbullying was less attractive based on the dramatic changes for young adults due to the pandemic, for instance, COVID-19 anxiety or personal health issues (Englander, 2021).

Second, it was hypothesized that there is a positive association between social media usage and cyberbullying victimization both before and during the COVID-19 pandemic. Several conclusions can be drawn from the current study’s findings on social media usage. In line with the related literature, the time spent...
online dramatically increased during the pandemic (Lemenager et al., 2021). The current study found that
the majority of the participants reported that they had increased their social media usage due to the onset
of the pandemic.

Research indicates that feeling lonely during the pandemic potentially leads to more social media usage
to seek social belonging (Boursier et al., 2020; Mikkola et al., 2020). These studies give contradictory
results to the research by Giumetti et al. (2022). They found that technology use was not a significant pre-
dictor of victimization among college students (Giumetti et al., 2022). In this context, caution must be exer-
cised. Technology usage does not necessarily translate into social media usage. Technology use can include
more than social media usage, making comparisons convoluted. The definition of technology can vary greatly
across studies. In accordance with Giumetti et al. (2022), the current study found no linear or positive as-
sociation between social media usage and victimization experiences.

In the current study, social media was a nonsignificant predictor of cyberbullying victimization during
the pandemic, and it has no statistically significant correlation with victimization before or during the pan-
demic or perceived social isolation. The absence of significance between social media and perceived social
isolation might suggest that isolated individuals may not necessarily increase technology usage to seek so-
cial connectedness (Sahin, 2012; Varghese & Pistole, 2017). Although the current study did not include the
online activities that people engaged in, the increased usage of social media and the amount of time people
spent on social media potentially indicate that people are engaging in high levels of online activities. As
noted above, the lack of significance might be explained by the particular activities the participants were
engaged in online. Future research on perceived social isolation and the types of activities people engage in
online during the pandemic is warranted.

Finally, it was hypothesized that there is a positive association between perceived social isolation and
cyberbullying victimization both before and during the COVID-19 pandemic. The findings indicate that feel-
ings of perceived social isolation dramatically increased among young adults during the pandemic. Most of
the participants reported feeling lonely as an outcome of the pandemic. As supported by the relevant litera-
ture, young adults generally perceive feeling socially isolated, including pre-pandemic (Hughes et al., 2004;
Newman et al., 2005). Past research also reveals mixed results for cyberbullying victimization and per-
ceived social isolation. This study found that perceived social isolation was a statistically significant indi-
vidual predictor of victimization during the pandemic (see Brewer & Kerslake, 2015, for more).

The significance of perceived social isolation could potentially stem from the assumption that victims
are often isolated from their peers, therefore, making them attractive to perpetrators. Following this ap-
proach, individuals might differ in their predisposition to loneliness. Another explanation might be that
peers avoid individuals who often experience cyberbullying, causing victims to feel socially isolated (New-
man et al., 2005). Stated differently, individuals already feeling lonely might be at heightened risk for cy-
berbullying, or cyberbullying is a catalyst for social isolation. In consideration of the foregoing, this dichoto-
my might occur simultaneously.

In the current study, perceived social isolation was also moderately correlated with victimization both
before and during the pandemic. Based on the statistical significance of perceived social isolation as an indi-
vidual predictor, future research might benefit from including perceived social isolation in cyberbullying
models. Taking into consideration that perceived social isolation was a significant predictor of victimization, a larger sample size might reveal statistical significance, even when cyberbullying victimization before the pandemic is included in the model.

Nevertheless, when cyberbullying victimization before the pandemic was included in the current study’s analysis, the effect of perceived social isolation was nullified. Similarly, the current study found a moderate rather than large effect size, indicating that future studies might benefit from combining loneliness with measurements of depression, low self-esteem, and empathy (Brewer & Kerslake, 2015). Overall, the lack of statistical significance of victimization before and during the pandemic and for perceived social isolation could potentially indicate that cyberbullying is less a problem that stems from individuals but rather requires peer groups and interactions. The potential increase in supervision during the pandemic could explain the lack of increase in cyberbullying rates and signify that social power dynamics between individuals might be essential for cyberbullying to occur (Vaillancourt et al., 2021). Although cyberbullying does not require physical power imbalance, certain power dynamics, including anonymity and enduring availability of content, might continue to be relevant and should be considered in future research (Menin et al., 2021).

This study sought to address the lack of research on the association between cyberbullying experiences, social media usage, and perceived social isolation during the COVID-19 pandemic. It is acknowledged that no study, including the current one, is without limitations. First, based on the method of convenience sampling adopted by the current study, one should be careful when generalizing the results. Most of the sample were further students at a Midwestern university, meaning caution must be exercised when making inferences to all university and college students in the United States.

Second, the survey was based on one survey administered in 2021. The participants were asked about their experiences both before and during the pandemic, defined as prior to and after March 2020. Reflecting on their experiences in this single survey, rather than employing two surveys (i.e., one for each period), might have resulted in underestimating or overestimating cyberbullying experiences (Schunk et al., 2022). Similarly, the use of other timeframes, such as studies concerned with cyberbullying experiences in 2022 instead of 2021, may provide divergent results. Future research on the influence of the pandemic on cyberbullying over a more extended period is warranted.

Third, the current study did not include mediator variables, including self-esteem, self-control, depression, life satisfaction, and stress. Researchers have discovered links between cyberbullying and depression, loneliness, and self-esteem (Varghese & Pistole, 2017). More research is needed on the relationships between these variables during the pandemic.

This study aimed to identify patterns rather than in-depth experiences. For a potentially richer understanding of cyberbullying among young adults, future research should also apply a qualitative or mixed-methods approach to examine experiences during the COVID-19 pandemic in greater depth (Guthrie, 2010; Lanier & Briggs, 2014). For instance, one participant stressed that “generally, I have seen an increase in cyberbullying during the pandemic due to increased social media usage,” showing that qualitative research may enable a more profound understanding of individual experiences.
Despite these limitations, to the best of the author’s knowledge, the current study is the first to explore the relationships between cyberbullying victimization, perceived social isolation, and social media usage among young adults, particularly during the pandemic. This study addresses an emerging area, considering that young adults have shown high levels of loneliness and social media usage even in pre-pandemic times (Varghese & Pistole, 2017). The results can serve as a basis for further research with practical ramifications for scholars and practitioners by emphasizing the potential importance of social isolation for cyberbullying research and the necessity for future research among young adults during the COVID-19 pandemic.

**Conclusion**

The results suggest that colleges and universities should be vigilant in terms of increased perceived social isolation and cyberbullying experiences during the pandemic, illustrating that continued research on cyberbullying is needed. This is significant considering that the relevant literature shows the deleterious outcomes and effects of cyberbullying.

Overall, the restricted sampling makes inferences to other college and university students limited; still the findings have important implications for counseling services, health researchers, and practitioners in college and university settings and serve as a basis for future research. The results indicate that victimization experiences before the pandemic tend to be more predictive than feelings of social isolation or social media frequency for experiences during the pandemic. The current study aims to raise awareness of cyberbullying in postsecondary education during the pandemic, and it suggests that young adults are feeling more isolated and are increasingly using social media, showing the severity of the effects of the COVID-19 pandemic on young adults.

Considering that reliance on technology is accelerating rather than declining, more research is required on the long-term consequences of the pandemic on perceived social isolation and cyberbullying among young adults. Ongoing research on cyberbullying is essential, based on the assumption that universities and colleges may increasingly offer online classes in the future. Precautions must be taken to ensure that feelings of social isolation are reduced by increasingly recognizing the severity of cyberbullying, even in postsecondary education.

**References**


