

## Research Article

# What Hurts Most? A Comparison of College Students' Perceptions of Cyber and Traditional Victimization

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**Abstract:** Although the research literature has demonstrated that cyber victimization is associated with a variety of negative psychological and social consequences, the support for the uniqueness of cyber bullying as distinct from traditional bullying is mixed. The current study conducted a quasi-experimental comparison of college students' perceptions of the anticipated hurt and reputational ramifications of cyber and traditional victimization. Generally, students rated the negative implications of cyber bullying as similar to those of traditional bullying. As exceptions, participants perceived greater hurt associated with face-to-face "flaming" behavior compared to experiencing the same situation online. Regardless of modality, "flaming" victimization was considered to be the least harmful emotionally and to the reputation, while "outing" was considered to be the most harmful. Finally, personal experiences with traditional victimization and poorer self-esteem were associated with perceptions of more emotional harm, or perceived hurt, associated with traditional victimization. However, among those with personal histories of traditional bullying, men were more likely than women to anticipate being hurt by cyber bullying. In summary, the type of victimization may be more important than the modality (online versus face-to-face).

**Keywords:** cyber victimization, self-esteem, emotional and reputational harm

## 1. Introduction

Cyber bullying refers to behavior that 1) utilizes electronic methods of transmission, 2) is repetitive in nature, and 3) consists of hostile actions designed to inflict harm to others (Chun et al., 2020; Tokunaga, 2010). As so defined, cyber bullying is similar to traditional, or face-to-face aggression (e.g., Olweus, 1994), specifically with respect to the repetitive nature of the negative behavior, and the intent to harm. However, other researchers (e.g., Alim, 2016) have addressed what they see to be fundamental differences between these types of aggression, such as the potentially anonymous nature of the bullying, and access to the victim at all hours of the day. As will be reviewed, the literature is mixed regarding the utility of considering cyber victimization as unique from traditional victimization. The purpose of the current study was to experimentally compare the perceived impact on the victim's reputational and emotional well-being (or hurt) of traditional and cyber victimization, considering the different subtypes of victimization proposed by Willard (2007), for a college population.

Studies examining cyber bullying vary greatly in their operational definition, both in terms of the components that make up cyber bullying, the modality used, such as a phone, internet, or social networking, as well as the time

period during which the bullying is measured. A meta-analysis by Kowalski et al. (2014) provides an overview of multiple operational definitions that have been utilized in studies on cyber bullying, including exchanging suggestive or threatening email messages, spreading rumors online, or doing mean things using a phone. One organizational structure for measuring cyber bullying, proposed by Willard (2007), identifies different subtypes of online bullying such as flaming (sending angry/mean messages), harassment (repeatedly sending negative messages), impersonation (the bully pretending to be someone else), exclusion (the victim is intentionally excluded online), denigration (posting untrue information about the individual), and outing (sharing personal information about the person).

## 1.1 *Cyber and traditional victimization*

Cyber bullying may represent a unique and particularly harmful form of aggression. The frequent use of technology by children and teens has been identified as a risk factor for cyber victimization (Álvarez-García et al., 2015). Children and teens increasingly have access to online technology, with 95% of teens in the United States having access to a smartphone (Anderson & Jiang, 2018) and 85% of households having broadband internet access (Martin, 2021). Particular concerns about cyber bullying, compared to traditional victimization, stem from the observation that the online setting is subject to less supervision, provides more anonymity, and that it provides contact with the victim at all times, even at home (Patchin & Hinduja, 2006).

The nature of the online medium itself may increase the emotional impact of cyber bullying (Dredge et al., 2014). Using an experimental design, one study asked junior and high school students to respond to a demeaning message about a peer that was delivered either electronically or in person. Adolescents were more likely to engage in negative bystander behavior (e.g., forwarding a message) in an online setting compared to a face-to-face setting (Barlińska et al., 2013). Sticca and Perren (2013) compared the perceived severity of cyber and traditional victimization using scenarios that varied in terms of publicity and anonymity. Their results indicated that cyber victimization was perceived by middle school students as being more harmful than traditional victimization, but that publicity and anonymity regardless of modality were more important predictors of severity (Sticca & Perren, 2013). In addition, confirmatory factor analysis supported the concept of cyber victimization as distinct from traditional subtypes of relational, reputational, and overt victimization (Landoll et al., 2015).

Support for the uniqueness of cyber victimization as being different from traditional victimization can also be found in studies examining the unique contribution of cyber victimization above and beyond traditional victimization with respect to personal characteristics and implications for mental health. In multiple longitudinal studies, cyber victimization was uniquely associated with clinical symptoms, such as depression, over and above traditional victimization (Cole et al., 2016; Landoll et al., 2015; Machmutow et al., 2012). In another study, cyber victims and traditional victims were more likely than non-victims to be lonely, but only cyber victims were more likely to be depressed (Olenik-Shemesh et al., 2012). In addition, cyber victimization was uniquely associated with lower levels of family self-esteem for male adolescents and greater levels of loneliness for female adolescents in their relationship with their parents (Brighi et al., 2012). In summary, the literature does provide some support for the idea that cyber victimization is associated with negative outcomes above and beyond traditional victimization (Gunther et al., 2016).

However, others have suggested that a focus on cyber victimization as unique from other types of victimization is premature. Mehari et al. (2020) did not find that cyber victimization was longitudinally associated with more harm, defined as distress and substance use, than in-person victimization. In addition, these arguments typically refer to studies that have found low rates of cyber victimization compared to traditional victimization (e.g., Livingstone & Smith, 2014; Mehari et al., 2020; Olweus, 2012; Pabian & Vandebosch, 2016). For instance, in a six-month longitudinal study of adolescents, cyber victimization was less prevalent than traditional victimization at two time periods, six months apart (Sticca et al., 2013). However, prevalence rates for cyber bullying and cyber victimization vary dramatically across studies. In a systematic review, Camerini et al. (2020) reported that prevalence rates for cyber bullying ranged from 5.3 to 66.2 percent; prevalence rates for cyber victimization ranged from 1.9 to 84.0 percent.

In general, those victimized online also tend to be victimized in traditional settings as well (e.g., Brighi et al., 2012; Gradinger et al., 2009; Machmutow et al., 2012; Mitchell et al., 2007; Olweus, 2012; Pabian & Vandebosch, 2016; Ybarra & Mitchell, 2004). Being exposed to both types of victimization was associated with the poorest adjustment including externalizing and internalizing symptoms (e.g., Gradinger et al., 2009). However, research indicates that with the advent of cyber victimization, there was no overall increase in the rates of victimization (Olweus, 2012). As a result

of these findings, a commentary by Finkelhor (2014) suggested that online victimization may not pose a unique risk to adjustment above and beyond that experienced through other types of victimization. Other, more recent research also found that experiencing cyber victimization did not result in an increase in adjustment difficulties for those already experiencing traditional victimization (Sidera et al., 2021). Therefore, additional research examining this question is needed in the field.

## **1.2 Importance of the present research**

Cyber victimization is an important component of research, as the negative effects of cyber victimization have been substantiated by the literature, particularly with respect to psychological adjustment (see Fisher et al., 2016 for a meta-analysis). Cyber victimization has been specifically associated with lower self-esteem (Fernández et al., 2015), more negative perceptions of their self-appearance for girls (Frisén et al., 2014), as well as depression and loneliness (Olenik-Shemesh et al., 2012). Longitudinal studies also support the negative ramifications of cyber victimization for later adjustment, as cyber victimization was associated with later increases in negative self-cognitions (Cole et al., 2016), loneliness (Matthews et al., 2022), and depression (Cole et al., 2016; Machmutow et al., 2012). The link between cyber victimization and depression may particularly apply to women (Schultze-Krumbholz et al., 2012). A study of female college students found that participants had three times the odds of meeting clinical criteria for depression when they had previously experienced cyber bullying, particularly those associated with unwanted sexual advances (Selkie et al., 2015). Cyber victimization is also associated with a range of peer and social outcomes, such as poorer social adjustment (Fernández et al., 2015), lower levels of peer acceptance, and fewer friends in elementary school (Jackson & Cohen, 2012). Cyber victimization, particularly that involving sexual solicitation, is associated with higher levels of delinquency and substance use (Mitchell et al., 2007). Therefore, the research literature suggests that cyber victimization is an important component to study.

The current study addresses college students, whereas many studies of cyber victimization have focused on younger participants (Selkie et al., 2015). This cyber victimization appears to continue among college students, perhaps at even higher levels than in high school (Zalaquett & Chatters, 2014). Cyber bullying tends to persist with time, with positive attitudes about cyber bullying and past cyber bullying behavior predicting later cyber bullying behavior (Barlett, 2015). Male and female college students report similar levels of cyber victimization, with most of the victimization occurring on social networking sites (MacDonald & Roberts-Pittman, 2010). Cyber victimization during college was associated with an increase in risk for depression; cyber bullying increased the risk for both depression and substance use (Selkie et al., 2015). As depression and substance use are both critical issues for universities, it is important to understand the mechanisms that may play a role in these mental health issues.

The current study examined two questions experimentally using victimization scenarios. First, are online methods of victimization perceived to be more hurtful than other methods of victimization? Based on an examination of the literature, it was hypothesized that cyber victimization would be perceived as more hurtful (e.g., Sticca & Perren, 2013). However, it is unclear how the different types of victimization (utilizing the framework by Willard, 2007) would be perceived by the participants. Second, the current study adds to the literature by considering both the perceived emotional impact of the victimization and the ramifications for the individual's reputation. Finally, this study examined the personal factors (demographic, personality, and peer) that might be associated with overall perceptions of cyber or traditional harm. It was expected that popular individuals might be less likely to perceive victim hurt from cyber aggression as bullying is more common among popular individuals and is socially rewarding (Guy et al., 2019). Popular individuals may then downplay the emotional impact of cyber bullying in order to rationalize their behavior. Self-esteem may also play a role in perceiving hurt associated with cyber victimization, as self-esteem has been found to mediate the link between cyber victimization and depression (Prihadi et al., 2019) as well as the link between traditional victimization and depression (Zhong et al., 2021). Victims with low self-esteem might be more likely to experience depression if they feel more hurt due to bullying. In addition, it was expected that women would be more likely to perceive harm associated with both types of bullying, as some studies have found higher levels of empathy among girls than boys (Benenson et al., 2021). In summary, the hypotheses were:

**Hypothesis 1:** Cyber victimization would be perceived as more hurtful than traditional victimization.

**Hypothesis 2:** Popular individuals and those with higher self-esteem would be less likely to perceive hurt from bullying than non-popular individuals.

**Hypothesis 3:** Women are more likely than men to perceive hurt associated with both traditional and cyber bullying.

## 2. Method

### 2.1 Participants

A total of 103 undergraduate college students (men = 25; women = 78) from the United States participated in the study. Participants were recruited from behavioral sciences classes (predominately psychology). A university psychology department subject pool was utilized for recruitment, in which participating classes granted extra credit opportunities for students' engagement in research studies. Faculty members provided access to an online sign-up system, which allowed potential participants to view and select among the research opportunities available for extra credit. All class students were given alternative ways to earn extra credit if they did not wish to serve as research participants. The average age of participants was 20.79 years ( $SD = 5.04$ ) and ranged from 18 to 54 years. College students were selected because of their typically high levels of online activity, ability to reflect back on their earlier experiences of victimization, and ease of recruitment. This study was approved by the university's Institutional Review Board, and informed consent was obtained from all participants.

### 2.2 Measures

**Scenarios.** Two forms of six scenarios were developed which differed only in the modality of victimization (cyber or traditional) and presented depictions of victimization in the forms of flaming, harassment, impersonation, exclusion, outing, and denigration (based on Willard, 2007). The victims in each scenario were women. Each participant received six different scenarios (three traditional and three online). No participant received both the cyber and traditional versions of the same scenario. After reading the scenario, participants were asked to assess the emotional impact of the victimization (1 = not hurt at all; 5 = extremely hurt) and the perceived result on the victim's reputation (1 = none; 5 = definitely hurt). They were also asked to what extent they had experienced a situation similar to the victim (1 = never; 5 = all the time). The scenarios depicted situations that could occur in high school or college. For an example of a scenario with both online and traditional (face-to-face) modalities, see Table 1.

**Table 1.** Scenarios

	Traditional format	Cyber format
Flaming	Sarah, who is a democrat, went to a town hall meeting to observe what people were saying about the upcoming election with her classmate Cheryl. While she was there, Sarah added her opinion to the conversation about the candidates running. Cheryl disagreed with Sarah because Sarah was pro-choice and started to call her horrible names. Sarah left and never went back to those meetings again.	Sarah, who is a democrat, went in a political chatroom to observe what people were saying about the upcoming election with her classmate Cheryl. While she was in there, Sarah added her opinion to the conversation about the candidates running. Cheryl disagreed with Sarah because Sarah was pro-choice and started to call her horrible names. Sarah logged off and never went back to the chatroom again.
Harassment	One day at school, some girls thought that it would be funny to put alcohol in a teacher's drink. After it happened, the principal asked if anyone knew what had happened and to come forward or else the school dance would be cancelled for everyone. Sasha knew who had done it and that telling was the right thing to do. Plus, everyone could attend the dance. She told the principal what had happened. However, word got around school that Sasha had told. Sasha started getting called names by the same group of students every day. They called her a snitch and a teacher's pet and told her to never show her face in school again. This problem went on for weeks.	One day at school, some girls thought that it would be funny to put alcohol in a teacher's drink. After it happened, the principal asked if anyone knew what had happened and to come forward or else the school dance would be cancelled for everyone. Sasha knew who had done it and that telling was the right thing to do. Plus, everyone could attend the dance. She told the principal what had happened. However, word got around school that Sasha had told. Sasha started getting multiple text messages from the same group of students every day. The messages read that she was a snitch and a teacher's pet and to never show her face in school again. This problem went on for weeks.
Impersonation	Todd really wanted to get back at his ex-girlfriend Mary for cheating on him. So he got his friend Liam to flirt with Mary, making her believe he was actually interested in her. Liam told Mary that she was cute and they should go on a date. Mary sat at the restaurant waiting for Liam for two hours. Todd walked by her laughing and said "Oh, did your new boyfriend stand you up?"	Todd really wanted to get back at his ex-girlfriend Mary for cheating on him. So he made a fake Facebook account with the name "Liam" and flirted with Mary, making her believe that it was a real guy. Todd messaged Mary on the fake Facebook account and told her she was cute and they should go on a date. Mary sat at the restaurant waiting for "Liam" for two hours. Todd walked by her laughing and said "Oh, did your new boyfriend stand you up?"
Exclusion	Amy and Kate were in the same group of friends who hung out frequently with each other. Kate's steady boyfriend Steve broke up with her and everyone in the group was convinced that Amy was trying to "steal" Steve away from Kate, and that is why they broke up. Although Amy and Steven occasionally talked, Amy would never do that to a friend. However, Amy couldn't convince her friends that she was innocent. The rest of the group decided to kick her out of the group and would whisper to each other when they saw her so that they could avoid her. They also ignored her when Amy tried to explain what happened.	Amy and Kate were in the same group of friends who hung out frequently with each other. Kate's steady boyfriend Steve broke up with her and everyone in the group was convinced that Amy was trying to "steal" Steve away from Kate, and that is why they broke up. Although Amy and Steve occasionally talked, Amy would never do that to a friend. However, Amy couldn't convince her friends that she was innocent. The rest of the group decided to kick her out of the group and texted each other when they saw her so they could avoid her. They also blocked her emails and instant messages when Amy tried to explain what happened.
Denigration	One day Leya discovers that there is a "burn book" that the whole school has access to devoted to making fun of her. In this book, people have been pasting in embarrassing pictures of Leya and writing in mean jokes about her. There are even lies written that say that Leya has been dating teachers and that is how she has been getting good grades at school.	One day Leya discovers that there is a website that the whole school can see devoted to making fun of her. On this website, people have been posting embarrassing pictures of Leya and posting mean jokes about her. There are even lies posted that say that Leya has been dating teachers and that is how she has been getting good grades at school.
Outing	While Jay and Nicole were dating, Jay took some embarrassing pictures of Nicole. When Nicole lost interest in Jay and broke up with him, Jay got really mad. The next day, he printed out the pictures and posted them around school.	While Jay and Nicole were dating, Jay took some embarrassing pictures of Nicole. When Nicole lost interest in Jay and broke up with him, Jay got really mad. The next day, he messaged his whole facebook with the pictures of Nicole.

**Self-esteem.** Self-esteem was assessed using Rosenberg's (1965) Self-Esteem Scale. This 10-item measure utilizes a 4-point scale (strongly agree to strongly disagree). Items were averaged to produce one score for self-esteem ( $M = 2.53$ ,  $SD = 0.90$ ). In the current study, the internal reliability of the scale was strong ( $\alpha = .95$ ).

**Internet use.** Participants were asked to rate the extent of their use of several different internet modalities including email, text messaging, instant messaging, skype, social networking sites, and internet chat rooms on a 5-point scale (never to very often). The extent of use across all these aspects was averaged to reflect an overall measure of internet use ( $M = 2.23$ ,  $SD = 0.66$ ;  $\alpha = .67$ ). Frequencies of use are presented in the results section.

**Perceptions of self-popularity.** Participants self-reported their popularity using the Index of Peer Relations (Hudson, 1982) with minor adaptations to be more appropriate to a university setting by the removal of three items (my peers act like they don't care about me; I feel like I am an important member of my peer group; my peers are a real source of pleasure) and minor wording changes to five items (changing "my peers look up to me" to "my peers look up to me as a leader"; "my peers really seem to respect me" to "my peers seem to really respect me"; "I really feel that I am disliked by my peer group" to "I really feel like I am disliked by my peers"; "my peers think I am important to them" to

“my peers think I am an important member of the peer group”; “my peers really do not interest me” to “my peers do not interest me”). The resulting 22-item scale asked participants to provide rankings on a 7-point scale (1 = none; 7 = all of the time) on items such as “my peers seem to like having me around”. Items were averaged to form one popularity score ( $M = 5.96$ ,  $SD = 0.64$ ) and also had strong internal reliability ( $\alpha = .92$ ).

**Sociodemographic variables.** Using an open-ended format for each question, participants were asked to provide their age and their gender. No participants reported a gender other than male/man or female/woman.

## 2.3 Results

Preliminary analyses examined the participants’ general online usage as well as personal experience with the six types of victimization subtypes. Participants in the study reported a high level of internet use, with “often” or “very often” use by 84.5% of social networking sites, 89.3% of text messages, and 81.6% of email. Other types of internet use were less common with “often” or “very often” use with 27.2% using a form of instant messenger, 1.9% going into online chat rooms, and 22.3% using Skype. All participants reported at least some sort of engagement in online activities.

Next, participants’ reports of their own victimization were analyzed. There were no significant mean differences between reports of personal cyber and traditional victimization for the six subtypes. However, when examining the percentage of participants who reported any level of history of victimization, certain types of victimization were more common, ranging from flaming (cyber = 73.1%, traditional = 72.5%), exclusion (cyber = 45.1%, traditional = 51.9%), harassment (cyber = 37.3%, traditional = 46.2%), outing (cyber = 17.3%, traditional = 15.7%), trickery (cyber = 13.7%, traditional = 11.5%), and impersonation (cyber = 9.6%, traditional = 7.8%). There were no significant gender differences in the experience of victimization for any of the six subtypes (either cyber or traditional) and no significant gender differences in the experience of victimization when responses were collapsed into overall cyber victimization (men  $M = 1.48$ ,  $SD = 0.58$ ; women  $M = 1.46$ ,  $SD = 0.45$ ,  $t(101) = 0.17$ ,  $p < .05$ ,  $d = 0.04$ ), and overall traditional victimization (men  $M = 1.34$ ,  $SD = 0.45$ ; women  $M = 1.45$ ,  $SD = 0.41$ ,  $t(101) = -1.15$ ,  $p < .05$ ,  $d = 0.26$ ). It is important to note that the population of male participants was small and that the analyses looking at gender had less than a 69% chance of detecting a large effect size (Aron et al., 2013). Most mean differences and effect sizes were small. However, the effect size in the analysis looking at potential gender difference in face-to-face exclusion is notable, despite not being statistically significant, and could be worth future study in a larger sample. See Table 2 for the specific statistics for the subtypes.

**Table 2.** Gender differences in personal experiences with subtypes of victimization

Online victimization	Men		Women		$t(50)$	Cohen’s $d$
	$M$	$SD$	$M$	$SD$		
Flaming	2.18	0.75	2.10	0.89	0.29	0.10
Harassment	1.57	0.94	1.51	0.73	0.23	0.07
Impersonation	1.09	0.30	1.15	0.53	-0.33	0.11
Exclusion	1.57	0.85	1.57	0.65	0.02	0.05
Denigration	1.27	0.65	1.24	0.63	0.02	0.05
Outing	1.21	0.58	1.19	0.52	0.15	0.05



Traditional victimization	Men		Women		<i>t</i> (50)	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Flaming	1.86	0.66	1.89	0.66	-0.17	0.05
Harassment	1.07	0.27	1.08	0.28	-0.82	0.28
Impersonation	1.07	0.27	1.08	0.28	-0.11	0.04
Exclusion	1.27	0.47	1.76	0.77	-1.98	0.68
Denigration	1.14	0.36	1.19	0.46	-0.34	0.11
Outing	1.27	0.91	1.12	0.33	0.89	0.30

\*  $p < .05$ , \*\*  $p < .01$

Note: None of the comparisons were statistically significant.

Analyses were then conducted to compare students' perceptions of the impact of cyber versus traditional victimization across the six types of bullying. Analyses considered the variables of anticipated hurt as well as damage to the reputation. With approximately 50 participants in each group, this analysis had a 70% chance of resulting in significant results for a medium effect size (Aron et al., 2013). In general, participants perceived similar levels of negative impact for cyber and traditional victimization. Of the six different types, only the analysis comparing cyber versus traditional flaming behaviors revealed a statistically significant difference. Participants reported greater levels of anticipated hurt ( $M = 3.47$ ,  $SD = 1.07$ ) for being called names to their faces compared to being treated similarly in a chat room ( $M = 3.00$ ,  $SD = 1.19$ ,  $t(101) = -2.12$ ,  $p < .05$ ,  $d = 0.42$ ). No differences were found for any of the six scenarios in terms of damage to the victim's reputation. See Tables 3 and 4 for the specific statistics.

**Table 3.** Comparison of anticipated hurt for six scenarios

Type of victimization	Traditional		Online		<i>t</i> (101)	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Flaming	3.47	1.07	3.00	1.19	-2.12*	0.42
Harassment	4.10	0.98	4.08	0.72	0.11	0.02
Impersonation	3.96	0.80	3.98	0.85	0.12	0.02
Exclusion	4.44	0.80	4.57	0.78	-0.81	0.16
Denigration	4.75	0.56	4.65	0.71	-0.72	0.14
Outing	4.67	0.59	4.57	0.64	0.87	0.17

\*  $p < .05$ , \*\*  $p < .01$

**Table 4.** Comparison of reputation damage for six scenarios

Type of victimization	Traditional		Online		<i>t</i> (101)	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Flaming	2.69	1.18	2.44	1.09	-1.09	0.22
Harassment	4.25	0.81	4.39	0.85	-0.87	0.17
Impersonation	2.55	1.08	2.71	1.19	0.72	0.14
Exclusion	3.81	1.10	3.78	0.97	0.11	0.02
Denigration	4.56	0.79	4.71	0.54	1.14	0.23
Outing	4.06	1.07	3.98	1.03	0.37	0.07

\*  $p < .05$ , \*\*  $p < .01$

Note: None of the comparisons were statistically significant.

Comparing across subtypes, the similarity between online and traditional victimization was also noted in the ratings of hurt and reputation, as college students perceived “outing” to be the most hurtful across both modalities (combined  $M = 4.70$ ,  $SD = 0.64$ ) and harmful to the reputation (combined  $M = 4.64$ ,  $SD = 0.67$ ) and “flaming” to be the least hurtful (combined  $M = 3.23$ ,  $SD = 1.15$ ) and least damaging to the reputation (combined  $M = 2.56$ ,  $SD = 1.14$ ).

Next, four linear regressions were conducted after collapsing across scenario types and comparing online and traditional victimization’s associations with perceptions of hurt and reputational harm. The predictor variables consisted of age, gender, internet use, self-esteem, popularity, personal history of online victimization, and personal history of traditional victimization. The four outcome measures consisted of perceived hurt associated with traditional victimization, perceived hurt associated with online victimization, perceived reputational harm associated with traditional victimization, and perceived reputational harm associated with online victimization. All variables were forced into a single step in order to treat all the variables equally. The presence of multicollinearity was ruled out based on an examination of the correlation values. All correlations were below .80, with the highest correlation between the history of online victimization and traditional victimization,  $r(101) = .65$ ,  $p < .001$ . In addition, an examination of the residual plots for each outcome variable indicated that the outcome variables were normally distributed and generally homeostatic. Therefore, linear regressions appeared appropriate for the data. See Table 5 for the specific statistics.

Of the four linear regressions, only the model for traditional hurt was significant,  $F(7, 95) = 3.35$ ,  $p < .01$ ,  $R^2 = 0.20$ . Women, those with lower self-esteem, and those with a personal history of traditional victimization were more likely to perceive hurt in the scenarios with traditional victimization. Age, internet use, popularity, and history of cyber victimization were not significant predictors in the regression model.

Looking across the four models, including the ones that were not significant overall, women were more likely than men to anticipate hurt feelings for both cyber and traditional victimization. Younger college students were significantly more likely to report reputational harm from traditional victimization than older students.

**Table 5.** Personal factors associated with online and traditional assessments of harm

Variables	Traditional hurt			Traditional reputation			Online hurt			Online reputation		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
Age	0.00	0.01	0.04	-0.04	0.02	-0.25*	-0.00	0.01	0.00	-0.01	0.02	-0.07
Gender	0.37	0.13	0.27**	0.27	0.19	0.15	0.41	0.15	0.27**	0.17	0.20	0.09
Internet use	-0.09	0.09	-0.10	-0.09	0.12	-0.07	-0.14	0.10	-0.14	-0.09	0.13	-0.08
Self-esteem	-0.15	0.06	-0.23*	-0.12	0.09	-0.13	-0.05	0.07	-0.06	0.02	0.10	0.02
Popularity	0.15	0.09	0.17	-0.07	0.13	-0.06	0.04	0.10	0.03	-0.07	0.14	-0.06
Cyber	-0.11	0.15	-0.09	0.11	0.21	0.07	-0.22	0.18	-0.17	-0.27	0.23	-0.16
Traditional	0.38	0.17	0.27**	0.07	0.24	0.04	0.10	0.20	0.07	-0.27	0.26	-0.16
Overall model	$F(7, 95) = 3.35$ , $p < .01$			$F(7, 95) = 1.71$ , $p > .05$			$F(7, 95) = 1.66$ , $p > .05$			$F(7, 95) = 0.56$ , $p > .05$		
	$R^2 = 0.20$			$R^2 = 0.12$			$R^2 = 0.11$			$R^2 = 0.04$		

\*  $p < .05$ , \*\*  $p < .01$

Finally, the possibility of an interaction between gender and previous history with either cyber or traditional victimization was explored. Adding the two interaction terms did not significantly improve the models for feelings of hurt for traditional victimization, or anticipated reputational harm for cyber or traditional victimization. However, interaction terms did significantly added to the model for feelings of hurt associated with cyber victimization ( $R^2$  change = 0.07,  $F$  change = 4.03,  $p < .05$ ) and, for the interaction between gender and traditional experiences of victimization ( $B = -1.41$ ,  $SE = 0.58$ ,  $\beta = -1.74$ ,  $p < .05$ ). Specifically, men with more personal experiences with traditional victimization were more likely than women, who also had personal experiences with traditional victimization, to anticipate hurt from cyber victimization.



## 4. Discussion

The primary purpose of the study, using a quasi-experimental design, was to compare two types of harm, anticipated hurt and perceived reputational damage, for a variety of subtypes of traditional and cyber victimization, as these types of studies are limited in the field. In addition, the current study adds to the literature by examining different subtypes of victimization based on the Willard (2007) model.

Preliminary analyses suggested that the population (college students) used in the current study was appropriate, as all participants had some engagement with online methods of communication. In the present study, the most common type of cyber victimization reported by the sample was flaming, which involves sending angry or hurtful messages. Flaming was also found to be the most reported type of cyber victimization in a study that studied cyber victimization rates across several countries (Sorrentino et al., 2019), although not including the United States. This particular type of cyber victimization may be the most encountered due to the ease of engagement. Harassment, in contrast, is similar to flaming but requires repeated interactions. Impersonation also requires a significant investment of time for the cyber aggressor. It should also be noted that the overall percentages reported in the current study were higher than those reported in the Sorrentino study, which focused on a younger sample (average age of 13.4) and restricted the reporting of cyber victimization to the last six months. The findings of the current study highlight that most of the study population reported some past experience with cyber victimization.

In general, the results of this study were consistent with Finkelhor's (2014) hypothesis that the online modality, in and of itself, might not pose a unique risk to victims. Out of the 12 comparisons, only one analysis resulted in a statistically significant difference between cyber and traditional victimization. This one significant finding revealed a higher perceived anticipated hurt for traditional name-calling than the same behavior in an online setting. It is interesting that this was the only significant difference, as flaming behavior was also rated as being the most common in either cyber or traditional formats and thus most likely to be experienced by the participants, but also as less hurtful. It is possible that the specifics of the scenario, which called for the victim to be "flamed" in an online chatroom, played a role in the perception of less anticipated hurt. Past research indicates that the publicity of the behavior may be an important factor in the perception of the severity of the harm of victimization (Sticca & Perren, 2013). However, the current sample rated the use of chatrooms as a low-frequency activity, meaning that an online chatroom may not be seen as being as public as a town hall meeting.

Although not the primary aim, the current study did examine gender as a potential risk factor in the perception of emotional and reputational harm associated with cyber and traditional victimization. The lack of gender differences in self-reported cyber victimization history was consistent with multiple studies with similar findings (e.g., Frisén et al., 2014; Gradinger et al., 2009; Jackson & Cohen, 2012; Schultze-Krumbholz et al., 2012). However, the field is far from unanimous in answering this question, as some studies have found girls to be more likely to be cyber victims (Machmutow et al., 2012; Olenik-Shemesh et al., 2012), while others have found a higher prevalence for boys (Fernández et al., 2015). There may be fewer gender differences in cyber victimization than in cyber bullying (Sorrentino et al., 2019). Because of the small sample size of the current study, it is important not to draw firm conclusions based on its findings.

Many of the findings with regard to personal characteristics were in line with past research. For instance, although there were no reported gender differences in the experience of cyber or traditional victimization, female college students were more likely to report emotional harm, or hurt, associated with both types of victimization, which would be expected considering the high rates of depression associated with cyber victimization (Selkie et al., 2015). It is possible that female participants perceived the victim's hurt to be stronger than male participants because the victim was female in all scenarios. However, other studies have found higher reported levels of empathy among girls than boys. For instance, girls reported more empathy than boys in response to witnessing a same-sex peer experience an accident (Benenson et al., 2021). In addition, a meta-analysis of cyber victimization found that girls were more likely to engage in bystander defense activities than boys (e.g., Ma et al., 2019). This pattern would make sense if female participants were also more likely than male participants to anticipate that the victim would be hurt. Indeed, female college students were more likely than male participants to perceive that they would personally experience distress associated with electronic victimization (Bennett et al., 2011).

Self-esteem was associated with more perceived hurt associated with traditional victimization but was not related to more perceived hurt associated with cyber victimization. The current study hypothesized that perceived hurt from

cyber and traditional victimization would be associated with lower self-esteem, as self-esteem has been found to mediate the relationship between both types of victimization and depression (Prihadi et al., 2019; Zhong et al., 2021). However, these findings might be explained by comparison studies of the two types of victimization. For instance, traditional victimization was associated with lower self-esteem than cyber victimization (Núñez et al., 2021). In addition, traditional victimization, compared to cyber victimization, was more strongly associated with depression (Sjursø et al., 2016). Therefore, it would follow that perceived hurt would be associated more with traditional victimization than cyber victimization.

Contrary to the hypothesis, perceived popularity was not a factor in perceptions of emotional harm. In addition, popularity was not associated with perceived reputational harm. These findings are interesting in light of the fact that popularity is often associated with higher levels of both cyber aggression and cyber victimization (e.g., Ranney & Troop-Gordon, 2020) as well as traditional bullying (Guy et al., 2019). It is possible that popular individuals believe their reputation is resilient to victimization and bullying. If popular individuals had experienced victimization themselves as well as serving as aggressors, which left their popular status intact, they may not have anticipated that aggression would negatively affect the victim. It would be interesting to see if the same finding would be obtained in a younger sample.

Finally, an analysis of the association between history of victimization and anticipated hurt revealed interesting findings. As might be expected, a history of traditional victimization was associated with judgments of emotional harm, or hurt, associated with traditional victimization. However, female college students with histories of traditional victimization were less likely than male college students with similar histories to report anticipated hurt from cyber victimization. Keeping in mind that women in general were more likely to report hurt feelings for both types of victimization, one possible explanation is that the previous exposure to victimization might have resulted in a relative “numbing” effect, particularly as the flaming behavior was seen as being more hurtful in a traditional setting. Similar findings were reported by Bennett et al. (2011), in that those with more experience with electronic victimization anticipated less distress associated with this behavior. As the electronic cyber bullying in their study was initiated by friends and romantic partners, the authors explained the lower level of distress in their sample as potentially being due to cognitive dissonance.

#### **4.1 Limitations and future research**

The current study was conducted on college students and should not be generalized to other populations. For instance, in the current study, participants reported similar levels of cyber and traditional victimization across the subtypes. However, other research suggests that traditional victimization is more common than cyber victimization (Livingstone & Smith, 2014; Olweus, 2012; Pabian & Vandebosch, 2016; Sticca et al., 2013). However, much of this past research was conducted on younger students. As the participants in this study were college students, they would have had the opportunity to reflect on a longer period of potential victimization, which may have resulted in different results. Longitudinal research examining victimization over time would be informative.

The participants of this study were primarily women, and the study had a small sample size. Based on past work with this population, participation rates among men tend to be low, which is why the scenarios all depicted female victims. However, more work should be devoted to subject recruitment among men as well as examining any potential differences in depicting male victims in the scenarios. In addition, more participants would likely be needed in order to more fully explore potential gender differences.

Finally, the current study was based on hypothetical situations and projected responses as opposed to real-world experiences of victimization. Although the current study makes a valuable addition to the field due to its quasi-experimental design, the participants’ perceived reactions may not accurately represent what they would actually feel or do in a similar circumstance. In addition, although the current findings have implications for bystander actions, bystander actions were not measured directly and could be useful for future research.

#### **4.2 Implications**

While the results of this study should not be taken to imply that online bullying should be ignored, they do add to other research that suggests that prevention efforts should be made for all types of bullying (e.g., Sticca et al., 2013). In

particular, social skills trainings that could be applicable to a wide variety of settings (Finkelhor, 2014) and interventions that enhance victims' social support (Machmutow et al., 2012) may be the most efficient use of prevention strategies. These interventions may be most critical for female college students due to their reports of higher levels of emotional distress as a result of victimization as well as their higher risk for depression. In particular, when evaluating risk factors, college counseling centers should assess the length of time the victimization has been occurring, the student's self-esteem, and the nature of the victimization. In the current study, the outing subtype of victimization was associated with the most distress. Although not explicit in the scenario, it is likely that victimization of a sexual nature is particularly harmful and should be considered as well.

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## Conflict of interest

The author has no conflicts of interest to declare.

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