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Cyberbullying incidents often occur in the presence of other bystanders. The inaction of bystanders can augment the deleterious effects of bullying on a victim. However, bystanders can intervene to stop a cyberbullying incident or offer support to the victim. Two studies were conducted to examine variables that were expected to influence the propensity of a bystander to take action in cyberbullying incidents: the number of bystanders, the anonymity of the bystander, and the closeness between the bystander and the victim. Results supported the diffusion of responsibility effect. A higher number of bystanders was negatively associated with bystander intervention. Moreover, the perceived anonymity of bystanders was negatively related to the propensity to intervene, and closeness with the victim was associated with a greater tendency to intervene and support the victim. Altogether, the results shed light on the interplay of context, relationships, and technology in the behavior of bystanders to a cyberbullying episode.

Keywords: Cyberbullying; Bullying; Computer-mediated Communication; Bystander Intervention; Anonymity

College students are voracious users of communication technology. Nearly 100% of undergraduate students at four-year colleges access the Internet regularly, 86% are members of a social networking site (SNS), and 96% own a cell phone (Smith, Rainie, & Zickuhr, 2011). As individuals continue to increase their technology use, the prevalence of hurtful online behaviors has the potential to increase, as well. Cyberbullying—that is, bullying behavior that occurs via electronic or digital media—has received attention from both researchers and the popular press (Tokunaga, 2010). Although bullying is often cited as a concern only among middle and high school students, it is common regardless of age. Indeed, upward of 50% of college students are familiar with cyberbullying incidents.

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students report being bullied in an online environment, and 30% of victims say that they were targeted for the first time during college (Kowalski, Giumetti, Schroeder, & Reese, 2012). In the present study, almost 20% of college students report having experienced cyberbullying within the previous three months.

Research suggests that one aspect of bullying merits closer attention: the presence of peers or bystanders observing the bullying episode. As many as 85% of offline bullying episodes occur in the presence of others (O’Connell, Pepler, & Craig, 1999). The average Facebook user has 245 online contacts, and the top 10% of users have over 780 friends (Hampton, Goulet, Marlow, & Rainie, 2012). If users have not restricted their profile, individual posts can have an audience of thousands of individuals. Some research has examined bystander intervention in traditional (offline) bullying episodes. Despite the fact that bystanders are sometimes present, they often do not intervene, choosing instead to observe passively or even join in the bullying (O’Connell et al., 1999). Whether bystanders directly intervene to stop the bullying or provide emotional support to the victim, intervention can attenuate the negative consequences of offline bullying (Matsunaga, 2010).

The present studies investigate the effect of several factors—including the presence of bystanders, anonymity, and relational closeness—on bystander behavior in online bullying. This research aims to employ the bystander effect (Darley & Latané, 1968) and other work on bystander behavior to understand and predict communication during cyberbullying episodes.

**Bullying and Cyberbullying: Definitional Issues**

Bullying is described as an intentional, aggressive, repeated act in which there is frequently a power difference between bully and victim (Olweus, 1993). Although the definition of cyberbullying largely overlaps with the traditional definition of bullying (Tokunaga, 2010), there are some notable differences. First, cyberbullying occurs via the use of an electronic device—and rather than being limited to the workplace or school, cyberbullies can target victims whether or not they are physically present (Patchin & Hinduja, 2006). Further, in online environments, where physical strength holds less sway, the power difference between bully and victim often is characterized by other factors, such as technological skill or anonymity (Vandebosch & Van Cleemput, 2008). Given the unique aspects of cyberbullying incidents, Tokunaga’s (2010) definition, derived from previous literature, was adopted for the present studies: “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). As Tokunaga (2010) and Slonje and Smith (2008) note, the “repetition” element of the definition takes a unique form online, as a single message can be viewed repeatedly and have long-lasting effects.

Research suggests that several factors that distinguish cyberbullying from other bullying episodes may affect a victim’s ability to receive support. These include the presence of additional bystanders, the anonymity often afforded by mediated environments, and the quality of the preexisting relationship between victims and
bystanders. The following section considers how each of these factors might affect bystander intervention during cyberbullying episodes.

**The Bystander Effect**

The present studies contribute to well-established theoretical developments surrounding the bystander effect (Darley & Latané, 1968). The bystander effect is an extensively researched phenomenon (for a review, see Fischer et al., 2011) that posits that individuals are less likely to exhibit prosocial behavior during an emergency situation if other bystanders are present than if they are not. Specifically, as the number of other people present increases, any individual bystander feels less compelled to intervene. Research on the bystander effect has suggested several other factors that may influence an individual bystander’s propensity to intervene, including anonymity (Schwartz & Gottlieb, 1980) and relational closeness with the victim (Levine & Crowther, 2008). The following sections extend the bystander effect and other research on bullying behavior by offering a series of hypotheses relating to bystander behavior in cyberbullying episodes.

**Diffusion of responsibility**

Several explanatory mechanisms have been offered for the bystander effect. For instance, Latané and Darley (1970) proposed a five-step model in which a bystander notices the event and undergoes a conscious decision-making process before deciding whether to intervene. This approach suggests that bystander behavior is driven by an evaluation of the relative costs and rewards associated with nonintervention (Latané & Nida, 1981). Other work has emphasized a subconscious element of bystander behavior: individuals are bombarded with frequent demands on their attention and are therefore limited in their ability to consider whether or not to act (Milgram, 1970).

Overall, the most frequently invoked explanatory mechanism of the bystander effect is the diffusion of responsibility, which takes an exchange perspective: the presence of others lowers psychological costs of nonintervention (Latané & Nida, 1981). One of the initial studies on bystander intervention found that, when viewing a confederate suffering from an epileptic seizure, 85% of participants who thought they were alone reported the seizure in a timely fashion, but only 31% of those who thought there were other witnesses did so (Darley & Latané, 1968).

Important, the diffusion of responsibility effect is not based on only the physical presence of others. For example, Markey (2000) posted requests for help in a public, online message board. Message board participants were more likely to respond quickly to the requests when there were fewer active posters on the board, particularly when the bystander was not asked directly by name for help. Another study found that the likelihood of helping in response to an email request declined when the email message indicated that multiple recipients were contacted (Blair, Foster Thompson, & Wuensch, 2005).
Bystander Intervention in Cyberbullying

Research examining offline bystander intervention suggests that a diffusion of responsibility effect might be especially salient in cyberbullying episodes. More specifically, in a study in which the immediate danger of an offline situation was manipulated, the effect held when the potential for immediate danger was low (Fischer, Greitemeyer, Pollozek, & Frey, 2006). However, contrary to previous findings, when the potential for immediate danger to the victim was high, individuals intervened at the same rate regardless of whether they were alone or in the presence of other bystanders. Online, the bully and victim are geographically distributed, which often means that the threat of immediate danger is low. Hence, the presence of other bystanders might have an especially important effect on intervention in online bullying episodes.

Visual anonymity

The bystander effect sometimes functions differently based on factors beyond the presence of bystanders, such as the perceived anonymity of the observer. In their extension of previous work on the bystander effect in an offline context, Schwartz and Gottlieb (1980) manipulated the number of other bystanders and whether or not the other bystanders and the victim were aware that the observer was present. Consistent with their predictions, the number of bystanders interacted with anonymity, such that individuals who were anonymous (i.e., the victim was not aware of their presence) and who knew there were other bystanders had relatively slower reaction times (Schwartz & Gottlieb, 1980). Research on mediated communication also has indicated that people’s identity is often anonymous in online environments, and that the perception of anonymity affects the enactment of both pro- and anti-social behavior (Joinson, 2001). Although 40–50% of cyberbullying victims are aware of the identity of the perpetrator, the potential anonymity afforded by mediated communication means that victims may not know who is targeting them (Patchin & Hinduja, 2006). Similarly, because the potential number of witnesses to cyberbullying incidents is so large, it is likely that individual bystanders are not identifiable by either the victim or the bully.

The most widely researched model concerned with anonymity in online contexts is the Social Identity Model of Deindividuation Effects (SIDE; Spears & Lea, 1994). In SIDE, anonymity is labeled as deindividuation. It is defined as a state of decreased self-awareness that leads to fewer adherences to societal and group norms. Although SIDE has been used to predict behavior in small groups (e.g., Spears & Lea, 1994), the design and function of new forms of technology in which cyberbullying might occur limit the scope of the theory in those contexts. For instance, SNS such as Facebook include pictures and detailed identifying information about participants. Hence, when considering whether or not individuals might intervene in a bullying incident, deindividuation, as defined by SIDE, is not likely to affect bystander behavior. Rather, in line with the operationalization implemented by Schwartz and Gottlieb (1980), anonymity should be defined in terms of whether or not bystanders believe they are visible—that is, whether their presence is apparent to others.
This operationalization of anonymity (i.e., visual anonymity) is supported by previous work on the bystander effect. Latané and Nida (1981) summarized research on the diffusion of responsibility and showed that it is weaker when the victim can see the bystander (but not vice versa) than when the bystander can see the victim (but the victim cannot see the bystander). In the cyberbullying context, these findings suggest that bystanders should be especially likely to respond to bullying when they think the victim knows they are present and aware of the incident.

**Relationship quality**

Mediated communication often entails interaction with family, friends, and acquaintances. Indeed, on SNS, relational development often begins offline or face to face (FtF) before individuals interact online (Ellison, Steinfeld, & Lampe, 2007). Consequently, it is likely that the quality of the relationship matters when predicting whether individuals intervene during a cyberbullying episode. People might be more likely to intervene and help a close friend or family member than an acquaintance, for instance.

Some research on the bystander effect has examined the role of relationship quality and status in bystander behavior. This research often takes a social identity perspective by claiming that individuals are more apt to help members of their “in-group” versus an “out-group” (Levine & Crowther, 2008). For instance, when people reported feeling close to a victim, they were more likely to exhibit helping behavior, such as defending the victim, during FtF bullying incidents (Oh & Hazler, 2009). Middle school-aged children were more likely to report assisting a victim of offline bullying when they had positive attitudes toward the victim (Rigby & Johnson, 2006). In research directly investigating the bystander effect, group- and friendship-related variables were more important than group size when determining whether a bystander intervened in a hypothetical violent incident (Levine & Crowther, 2008). Relational quality is also likely to influence when someone provides social support to a victim (Dunkel-Schetter & Skokan, 1990).

**The Present Studies**

The two current studies build upon the bystander effect and the aforementioned research, which have considered the influence of the presence of other bystanders, visual anonymity, and relational quality on bystander intervention and support behaviors. Each of these factors is suggested to play a role in the responses of bystanders to a cyberbullying incident.

**The presence of other bystanders**

The bystander effect and the diffusion of responsibility (Darley & Latané, 1968) suggest that witnesses to cyberbullying should be less likely to act in a prosocial manner when other bystanders are present. Although to our knowledge there is no current typology of cyberbullying bystander behavior, research on bystander behavior
in traditional bullying episodes notes that a bystander can undertake several actions, including providing support directly to the victim (Matsunaga, 2010), actively defending the victim by responding directly to the bully (Salmivalli & Voeten, 2004), or simply standing by, acting as a passive bystander. The diffusion of responsibility effect suggests either an increase or decrease in certain behaviors during a cyberbullying episode, based on the perceived number of bystanders:

H1: The perceived number of bystanders is (a) negatively related to a given bystander’s active defending behavior, (b) positively related to a bystander’s passive observing behavior, and (c) negatively related to a bystander’s support behavior.

Visual anonymity

Although visual anonymity in the online environment has been linked to hostile communication, few studies have examined the relationship between visual anonymity (or whether the bystander’s presence is apparent) and bystander/helping behavior. In one study of FTF behavior, individuals who perceived they were anonymous were less likely to offer help in emergency situations (Solomon, Solomon, & Maiorca, 1982). Given this, it is possible that in an online environment, people will be less likely to offer assistance or support when they perceive they are visually anonymous.

H2: Perceived visual anonymity is (a) negatively related to a bystander’s active defending behavior, (b) positively related to a bystander’s passive observing behavior, and (c) negatively related to a bystander’s support behavior.

Other research shows that the bystander effect can operate differently based on perceived anonymity (Schwartz & Gottlieb, 1981). This work suggests that the diffusion of responsibility effect predicted in H1 should be especially strong when a bystander perceives that others are aware of his or her presence. Hence, the above hypotheses are examined alongside the potential moderating variable of perceived visual anonymity:

H3: Perceived visual anonymity moderates the relationships between the number of bystanders and (a) active defending behavior, (b) passive observing behavior, and (c) support behavior such that individuals who perceive themselves as not visible are less likely to defend the victim, more likely to passively observe, and less likely to offer support when in the presence of other bystanders than individuals who perceive themselves as visible.

Relationship quality

In bullying episodes that occur offline, bystanders are more likely to exhibit helping behavior, such as defending the victim, when they feel a sense of closeness to the bullying target (Oh & Hazler, 2009). Additionally, individuals are more likely to help
victims whom they perceive to be their friends (Levine & Crowther, 2008). Based on these findings, the following predictions were made:

H4: The reported closeness between a bystander and a victim is (a) positively related to a bystander’s active defending behavior, (b) negatively related to a bystander’s passive observing behavior, and (c) positively related to a bystander’s support behavior.

Study 1

Method

Data were collected from 265 undergraduate students enrolled in communication courses at a large southwestern university. Recruitment materials invited participants who could recall at least one event in which they witnessed someone being targeted by hurtful actions, behaviors, and/or messages on Facebook. Of the total, 199 (75.1%) were female and 66 (24.9%) were male. Participants’ ages ranged from 18 to 42 years ($M = 20.2; SD = 1.97$). Most were Caucasian ($n = 163, 61.7\%$), followed by Hispanic ($n = 40, 15.2\%$), Asian ($n = 27, 10.2\%$), African-American ($n = 17, 6.3\%$), other ($n = 7, 2.7\%$), Middle Eastern ($n = 5, 1.9\%$), and Native American ($n = 3, 1.1\%$). Respondents were offered course extra credit for their participation, and were told that their participation was completely voluntary. One participant indicated that he or she responded incorrectly to the instructions so that individual’s data were removed. Ten additional participants could not recall such an event. These participants were invited to complete another portion of the survey (reported in a separate study).

Procedure

Participants completed an online survey. Similar to previous studies (e.g., Oh & Hazler, 2009) they were given a brief definition of cyberbullying and asked to recall an experience within the previous six months in which someone they knew was targeted on Facebook. Facebook was selected as the context for the study because it is the most widely used online social network, with over one billion worldwide members (www.facebook.com) and is therefore likely to result in the broadest applicability of the results.

After participants received instructions for completing the survey, they were asked to describe the cyberbullying event in as much detail as possible, explain what led up to the hurtful online messages or actions, and describe what they said or did following the incident. After recounting the episode, participants completed several additional measures, described below. Table 1 displays the mean, standard deviation, and Cronbach’s alpha for each variable.

Presence of additional bystanders. Respondents were asked to recall the number of additional people who witnessed or viewed the bullying episode. Similar to Oh and
Table 1  Means, SD, and correlations among the variables (N = 254).

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>α</th>
<th>Bys</th>
<th>Anon</th>
<th>Vic close</th>
<th>Defend</th>
<th>Observe</th>
<th>Em Sup</th>
<th>Es Sup</th>
<th>Net Sup</th>
<th>CB</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bys</td>
<td>107.30 (210.58)</td>
<td>.82</td>
<td>–</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Anon</td>
<td>4.02 (2.00)</td>
<td>.95</td>
<td>.18**</td>
<td>–</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Vic close</td>
<td>4.81 (1.95)</td>
<td>.98</td>
<td>–.28***</td>
<td>–.27***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Defend</td>
<td>4.25 (1.89)</td>
<td>.77</td>
<td>–.27***</td>
<td>–.47***</td>
<td>.42***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Observe</td>
<td>2.97 (1.63)</td>
<td>.84</td>
<td>.29***</td>
<td>.39***</td>
<td>–.49***</td>
<td>–.46***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Em Sup</td>
<td>3.41 (1.32)</td>
<td>.94</td>
<td>–.18**</td>
<td>–.31***</td>
<td>.77***</td>
<td>.52***</td>
<td>–.50***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Es Sup</td>
<td>3.36 (1.32)</td>
<td>.97</td>
<td>–.14*</td>
<td>–.31***</td>
<td>.71***</td>
<td>.48***</td>
<td>–.48***</td>
<td>.93***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Sup</td>
<td>2.99 (1.29)</td>
<td>.96</td>
<td>–.07</td>
<td>–.36***</td>
<td>.61***</td>
<td>.41***</td>
<td>–.42***</td>
<td>.82***</td>
<td>.85***</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB</td>
<td>1.29 (.50)</td>
<td>.89</td>
<td>.08</td>
<td>.00</td>
<td>–.07</td>
<td>–.07</td>
<td>.08</td>
<td>–.09</td>
<td>–.08</td>
<td>.01</td>
<td></td>
<td></td>
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<tr>
<td>Sex</td>
<td>–</td>
<td>–</td>
<td>.05</td>
<td>.01</td>
<td>–.08</td>
<td>–.12</td>
<td>–.01</td>
<td>–.18**</td>
<td>–.15*</td>
<td>–.12</td>
<td>.14*</td>
<td>–</td>
</tr>
<tr>
<td>Hurt</td>
<td>5.15 (1.38)</td>
<td>.93</td>
<td>.09</td>
<td>–.09</td>
<td>.08</td>
<td>.17**</td>
<td>–.05</td>
<td>.29***</td>
<td>.29***</td>
<td>.25***</td>
<td>–.20***</td>
<td>–.25***</td>
</tr>
</tbody>
</table>

Bys, number of bystanders; Anon, visual anonymity; Vic close, closeness with the victim; Defend, active defending behavior; Observe, passive observing behavior; Em Sup, emotional support; Es Sup, esteem support; Net Sup, network support; CB, past experience with cyberbullying; Sex, sex (0 = female, 1 = male); Hurt, hurtfulness of cyberbullying episode.

*p < .05, **p < .01, ***p < .001.
Hazler (2009), participants were asked to estimate “Approximately how many other people witnessed the bullying episode?” and “How many other people were aware that the victim was being bullied?” The mean of the two items was used to operationalize the number of bystanders. Mean responses ranged from 0 to 2,000 (Mdn = 32.50).

**Visual anonymity.** Visual anonymity was operationalized in terms of whether bystanders believed that the victim knew of their presence. Because photos and identifying information are easily available in many online contexts, previous measures were not applicable. Thus, several items were created for this study. Participants were asked if, during the incident, they felt that other people, including the victim, the perpetrator, and/or other witnesses: “were aware of me,” “knew I was there,” “recognized my presence,” and “could see that I was online.” Participants rated their agreement with the items on a 7-point Likert-type scale (1 = strongly disagree; 7 = strongly agree). Scores were reversed so that higher scores reflected higher perceived visual anonymity.

**Relationship/closeness with the victim.** Participants completed a slightly adapted version of the Vangelisti and Caughlin (1997) closeness measure. The items were reworded to reflect all relationship types, rather than just romantic relationships. Sample items include: “How important is your relationship with this person” and “How close are you to this person?” Participants responded to the items on a 7-point Likert-type scale (1 = not at all; 7 = very much).

**Bystander behavior.** Bystander behavior was measured with a modified version of the Participant Role Questionnaire (PRQ; Salmivalli & Voeten, 2004). Items were adapted to refer to an individual bullying episode, rather than behavior across multiple bullying incidents. Additionally, item wording which suggests a school environment was removed, and the word “bully” was replaced with “perpetrator.” The present study utilized two subscales from the PRQ. The defender subscale was used to measure active defending, and the outsider subscale was used to measure passive observing. Sample items include: “I told the perpetrator to stop their behavior” (defender), and “I stayed outside the situation” (outsider). Participants responded based on a 7-point Likert-type scale (1 = strongly disagree; 7 = strongly agree).

**Social support.** Because the PRQ does not fully capture the range of possible social support behaviors, the present study assessed the emotional, esteem, and network support components of Xu and Burleson’s (2001) typology. These components have been used in other studies of bullying behavior (e.g., Matsunaga, 2010). Items were modified to address non-marital relationships and to indicate provided support rather than received support. Participants indicated their responses on a 5-point Likert-type scale (1 = not at all; 5 = a great deal). Sample items include: “Told them that they are important to me and I feel close to them” (emotional support); “Tried
to reduce their feelings of guilt about the situation” (esteem support); and “Connected them with people whom they may turn to for help” (network support).

Personal experience with cyberbullying. As a control variable, respondents completed a slightly altered version of the Electronic Bullying Questionnaire (Kowalski & Limber, 2007). Sample items include: “I was bullied on a SNS (such as Facebook),” and “I was bullied through a text message sent to my cell phone.” Participants reported their responses on a 5-point Likert scale (1 = not at all; 5 = several times a week).

Degree of hurt. The perceived hurtfulness of the cyberbullying incident was measured with a series of semantic differential items originally developed by Vangelisti and Young (2000). Three items were added to assess the severity of the incident. Sample items include: “Was not at all hurtful–Was extremely hurtful” and “Was not very severe–Was very severe.” Individuals were asked to evaluate the degree of hurt from the perspective of the victim.

Results

The hypotheses were tested with a series of hierarchical regression analyses, which allowed for the analysis of both linear predictions and interaction effects. Five separate regressions were conducted, one for each dependent variable (DV) (i.e., active defending, passive observing, emotional, esteem, and network support). The Tolerance (TOL) and Variance Inflation Factory (VIF) tests showed acceptable collinearity between the predictor variables for each regression. Table 1 displays the correlations between the study variables.

Effect of independent variables on active defending. Because there was a significant positive correlation between degree of hurt and active defending behavior, degree of hurt was entered in the first block as a control variable. The second block included the number of bystanders (H1a), perceived visual anonymity (H2a), and degree of closeness (H4a) between the participant and the victim. The variables were centered to mitigate multicollinearity. The final block included the interaction term, which was created by multiplying the centered number of bystanders variable with the centered visual anonymity variable (H3a). Table 2 displays the results of the regression.

The overall F-test indicated that the model significantly predicted active defending behavior. In line with the hypotheses, the number of bystanders (H1a) and perceived visual anonymity (H2a) were negatively related to active defending behavior. Closeness with the victim (H4a) was positively linked to active defending behavior. However, contrary to one of the four predictions, the interaction between the number of bystanders and perceived visual anonymity (H3a) did not significantly relate to active defending.
Effect of independent variables on passive observing. None of the potential control variables was significantly correlated with the dependent variables (DVs), so the first block included the number of bystanders (H1b), perceived visual anonymity (H2b), and degree of closeness (H4b) between the participant and the victim. The variables were centered. The final block included the interaction term, which was created by multiplying the centered number of bystanders variable with the centered visual anonymity variable (H3b). Table 3 displays the results of the regression.

The overall F-test indicated that the model significantly predicted passive observing behavior. In line with the hypotheses, the number of bystanders (H1b) and perceived visual anonymity (H2b) were positively related to passive observing behavior. Closeness with the victim (H4b) was negatively associated with passive observing behavior. However, contrary to H3b, the interaction between the number of bystanders and perceived visual anonymity was not significantly related to passive observing.

Effect of independent variables on social support. Because they were significantly (or nearly significantly) associated with the DVs, participants’ sex (dummy-coded),

Table 2: Hierarchical regressions predicting active defending behavior (N = 254).

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Active defending</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td>Degree of hurt</td>
<td>.23</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td>Number of bystanders</td>
<td>-.001</td>
</tr>
<tr>
<td>Visual anonymity</td>
<td>-.34</td>
</tr>
<tr>
<td>Closeness with Vic.</td>
<td>.26</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
</tr>
<tr>
<td>Interaction between the number of bystanders and visual</td>
<td>.00</td>
</tr>
<tr>
<td>anonymity</td>
<td></td>
</tr>
</tbody>
</table>

Total R² = .34; adjusted R² = .33. F(5, 249) = 25.22, p < .001. **p < .01, ***p < .001.

Table 3: Hierarchical regressions predicting passive observing behavior (N = 254).

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Passive observing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td>Number of bystanders</td>
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</tr>
<tr>
<td>Visual anonymity</td>
<td>.23</td>
</tr>
<tr>
<td>Closeness with Vic.</td>
<td>-.30</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td>Interaction between number of bystanders and visual</td>
<td>.00</td>
</tr>
<tr>
<td>anonymity</td>
<td></td>
</tr>
</tbody>
</table>

Total R² = .33; adjusted R² = .32. F(4, 250) = 30.21, p < .001. *p < .05, ***p < .001.
closeness to the bully, and the degree of hurt were entered in the first block as control variables. The second block included the number of bystanders (H1c), perceived visual anonymity (H2c), and the degree of closeness (H4c) between the participant and the victim. The final block included the interaction term, which was created by multiplying the centered number of bystanders variable with the centered visual anonymity variable (H3c). Table 4 shows the results of the regressions.

The overall F-test for all three regressions indicated that the models significantly predicted social support behaviors. In line with the hypotheses, perceived visual anonymity (H2c) was negatively associated with emotional, esteem, and network support, and closeness with the victim (H4c) was positively related to emotional, esteem, and network support. The perceived number of bystanders (H1c) was not significantly associated with emotional or esteem support. Also contrary to H1c, the perceived number of bystanders was positively related to network support. The interaction between the number of bystanders and perceived visual anonymity (H3c) was not significantly associated with social support behaviors.

Discussion

Number of bystanders. Consistent with research on the bystander effect, the number of bystanders to an online bullying incident was negatively related to participants intervening to stop the incident. Furthermore, the number of bystanders was positively associated with participants’ tendency to passively observe the incident. Although researchers have suggested that bystanders to bullying episodes may decrease the likelihood of bystander intervention (e.g., O’Connell et al., 1999), no studies have directly investigated this prediction in the bullying or cyberbullying context. The results of the current study provide support for the diffusion of responsibility effect in cyberbullying episodes.

It is interesting to note that, other than a positive relationship with network support, the number of bystanders was not associated with social support behavior. Given that previous research on the bystander effect has not investigated social support as a DV, it is possible that the theory does not extend into contexts in which social support is a viable option. These results suggest that closeness to the victim and visual anonymity, but not the number of bystanders, predicted emotional, esteem, and network-related social support. Further, given the positive link between the number of bystanders and network support, it is likely that people who perceive that there are many bystanders also perceive a large number of potential outlets for network support for the victim. Indeed, one of the key functions of Facebook use is the development of social capital, or resources gained from social relationships (Ellison et al., 2007). Perhaps participants associated a large number of bystanders with an increased potential for utilizing that social capital to support the victims.

Visual anonymity. As predicted, perceived visual anonymity was positively related to passive observing behavior and negatively associated with social support and active
Table 4 Hierarchical regressions predicting social support behaviors (N = 254).

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Emotional support</th>
<th></th>
<th>Esteem support</th>
<th></th>
<th>Network support</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>ΔR²</td>
<td>B</td>
<td>SE B</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant sex</td>
<td>−.16</td>
<td>.10</td>
<td>−.10</td>
<td>.11***</td>
<td>−.10</td>
<td>.10</td>
</tr>
<tr>
<td>Closeness with Perp.</td>
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<td>.05</td>
<td>−.13</td>
<td>.11***</td>
<td>−.11</td>
<td>.05</td>
</tr>
<tr>
<td>Degree of hurt</td>
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<td>.06</td>
<td>.24***</td>
<td>.24</td>
<td>.06</td>
<td>.24***</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of bystanders</td>
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<td>.00</td>
<td>.03</td>
<td>.57***</td>
<td>.001</td>
<td>.00</td>
</tr>
<tr>
<td>Visual anonymity</td>
<td>−.08</td>
<td>.03</td>
<td>−.12**</td>
<td>.48***</td>
<td>−.09</td>
<td>.03</td>
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<td>Closeness with Vic.</td>
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<td>.03</td>
<td>.73***</td>
<td>.66***</td>
<td>.45</td>
<td>.03</td>
</tr>
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<td>Step 3</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction b/w number of bystanders</td>
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<td>.00</td>
<td>.04</td>
<td>.001</td>
<td>.00</td>
<td>.00</td>
</tr>
</tbody>
</table>

Emotional support: total $R^2 = .67$; adjusted $R^2 = .67$. $F(7, 247) = 70.99, p < .001$; esteem support: total $R^2 = .58$; adjusted $R^2 = .57$. $F(7, 247) = 47.56, p < .001$; network support: total $R^2 = .45$; adjusted $R^2 = .44$. $F(7, 247) = 30.94, p < .001$.

$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$. 
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defending behavior. However, visual anonymity did not moderate the effect of the number of bystanders on any of the DVs. Instead, it had a direct effect, regardless of how many bystanders were present. This finding contradicts the work of Schwartz and Gottlieb (1980), who found that the effect of the number of bystanders on helping behavior was moderated by whether or not the bystander perceived him- or herself as visible to the perpetrator or victim. The methodology of the present study differed from that study in two ways. First, the number of observers in the current study was not tightly controlled. In the Schwartz and Gottlieb experiment, there were either one or zero bystanders. In online environments such as Facebook, there are often at least several other bystanders. Second, the bystander was usually well acquainted with the victim. Schwartz and Gottlieb investigated bystander intervention in a context in which the victim and the bystander were strangers. In the present study, very few participants (17.8%) indicated that the victim was a stranger or acquaintance.

Together, the results are consistent with prior research on anonymity and deindividuation, which suggests that decreased self-awareness allows for less adherence to societal standards, and thus results in anti-normative behavior (e.g., Sproull & Kiesler, 1986). Studies also indicate that the extent to which individuals believe they are not visible to other online communicators (sometimes labeled as invisibility) can lead to anti-normative behavior (Lapidot-Lefler & Barak, 2012). Although active defending and social support are prosocial behaviors, a lack of intervention (passive observing) could be seen as anti-normative, in that the bystander chooses not to help a victim. Consider that social isolation can exacerbate the negative social and emotional effects of cyberbullying (Newman, Holden, & Delville, 2005). The current findings demonstrate that visual anonymity is positively related to passive observing behavior, a potentially hurtful behavior which may augment the deleterious effects of the bullying episode.

**Relationship with the victim.** As expected, closeness with the victim was associated with more social support and active defending, and less passive observation of the cyberbullying episode. This finding extends previous research (e.g., Levine & Crowther, 2008) which found that bystander closeness with a victim was positively related to helping behavior. Moreover, in offline bullying incidents, individuals who feel close to a victim are more likely to intervene to defend or support the victim (Oh & Hazler, 2009). The results of this study replicate these findings and extend the research into the online realm, in which individuals are often connected to people they know offline as well (Ellison et al., 2007).

**Limitations and rationale for Study 2.** Despite the support for many of the hypotheses, a second study was warranted for two reasons. First, the initial study utilized recall methods. Individuals’ memories may be biased such that events that took place after the bullying episode (e.g., whether or not someone else intervened) influenced participants’ responses (e.g., Stafford & Daly, 1984). Second, participation in Study 1 was limited to individuals who could recall an event in which someone
they knew was targeted. Individuals tended to recall situations that involved victims they were relatively close to. Given these limitations, the second study was designed to assess individuals’ responses to a victim they were close to and one they were not close to. The four hypotheses put forth in Study 1 were tested in this second study. The design of Study 2, which employed hypothetical scenarios, is consistent with previous experimental research on both the diffusion of responsibility effect (e.g., Darley & Latané, 1968) and bystander intervention (e.g., Gini, Albiero, Benelli, & Altoè, 2008).

Study 2

Method

Pilot study. After a careful examination of the open-ended responses generated in Study 1, three scenarios were created for possible use in the second study. Separate versions were generated for men and women so the victim in the scenario would be the same sex as the participant. To select the optimal scenario for use in Study 2, 42 participants (35 women, 7 men; aged 18–34, \( M = 21.19, SD = 2.93 \)) were asked to read the scenarios and rate them for believability (Kearney, Plax, Smith, & Sorenson, 1988), hurtfulness (Vangelisti & Young, 2000), and whether the scenario constituted cyberbullying (Kowalski & Limber, 2007).

Three separate between-subjects one-way ANOVAs were conducted to compare the scenarios with respect to their believability, degree of hurt, and whether they constituted cyberbullying. The ANOVAs were not significant for degree of hurt or whether the scenario constituted cyberbullying. Although the ANOVA was not significant for believability, \( F(2, 41) = 2.36, p = .11 \), post hoc LSD comparisons indicated that the believability rating of the “hacking” scenario (\( M = 5.69, SD = 1.12 \)) was slightly (but not significantly) higher than the believability of the “relationship drama” (\( M = 5.00, SD = 1.07 \)) and the “burn book” scenarios (\( M = 4.88, SD = 1.12 \)). Thus, the hacking scenario was selected as the optimal vignette for Study 2 (Appendix 1).

Participants. Participants in Study 2 consisted of 379 undergraduate students (260 women and 119 men) at a large southwestern university. They ranged in age from 18 to 50 years (\( M = 20.69, SD = 2.98 \)). Most of the participants were Caucasian (\( n = 230, 60.4\% \)), followed by Hispanic (\( n = 63, 16.5\% \)), Asian (\( n = 48, 12.6\% \)), African-American (\( n = 27, 7.1\% \)), other (\( n = 7, 1.8\% \)), Middle Eastern (\( n = 2, 0.5\% \)), and Native American (\( n = 1, 0.3\% \)).

Procedure. Similar to previous research (e.g., Gini et al., 2008), respondents read a scenario that described an online bullying incident. They then completed an online survey in which they were randomly assigned to one of eight conditions. The three central independent variables (IVs) investigated in Study 1 were examined: The number of bystanders (many, few), visual anonymity (high, low), and relationship with the victim (close, acquaintance) were manipulated (Appendix 1). Eight versions
of the scenario were created, one for each of the conditions in the $2 \times 2 \times 2$ design. Participants read scenarios in which the victim was of their same sex. The presentation of scenarios was randomized, participation was balanced among conditions, and respondents were required to remain on the page displaying the scenario for at least 45 seconds. Participants were told to read the scenario carefully and to imagine themselves as the observer in the situation.

The number of bystanders was manipulated by varying the number of Facebook friends the victim had. To determine an ecologically valid manipulation for the variable, the results of the first study were used to calculate what might constitute a “high” and “low” number of friends for a college student. In Study 1, the mean number of Facebook friends for participants was 1,031.94 ($SD = 863.03$). For the scenarios in Study 2, one standard deviation was added to and subtracted from the mean to create the manipulation—a victim with many friends/bystanders (1,900) and a victim with few friends/bystanders (170). Visual anonymity was manipulated by altering whether the participant was logged into Facebook chat, and therefore visible to the victim/perpetrator. Closeness was manipulated by altering whether the victim was a “good friend” or “acquaintance.”

Participants completed the same DV and control scales described in Study 1. Potential control variables included participant sex, experience with cyberbullying ($M = 1.31$, $SD = .55$, $\alpha = .93$), degree of hurt ($M = 5.07$, $SD = 1.42$, $\alpha = .96$), and the number of Facebook friends ($M = 931.41$, $SD = 712.87$). Seventy-four participants (19.9%) indicated that they had been cyberbullied in the last three months. Of those, 47% told someone about the cyberbullying incident. Additionally, 62 participants (16.67%) indicated that they had cyberbullied someone else over the past three months. Finally, 232 respondents (62.37%) reported that they had seen or heard about a cyberbullying episode in the past three months. On average, participants reported seeing 2.6 cyberbullying incidents over the past three months ($Mdn = 1$; $SD = 6.66$).

DVs included the possible reactions to the bullying episode: active defending ($M = 4.45$, $SD = 1.56$, $\alpha = .85$), passive observing ($M = 3.44$, $SD = 1.40$, $\alpha = .83$), emotional ($M = 3.41$, $SD = .96$, $\alpha = .92$), esteem ($M = 3.44$, $SD = .98$, $\alpha = .94$), and network ($M = 3.23$, $SD = 1.01$, $\alpha = .94$) support. Each of these measures was described in the Methods section of Study 1. Finally, participants answered two open-ended items: “What do you think the purpose of this survey was?” and “What do you think this survey was trying to study?” Based on their awareness of the study’s goals, two individuals were removed from subsequent analyses.

Results

Manipulation check. To ensure the scenarios activated the expected differences relating to number of bystanders, visual anonymity, and closeness, a series of independent samples $t$-tests was conducted. Individuals in the high number of bystanders condition perceived a higher number of bystanders/witnesses to the incident ($M = 312.34$, $SD = 406.46$) than did those in the low number of bystanders condition ($M = 74.63$, $SD = 217.46$), $t(375) = 7.05$, $p < .001$, $d = .73$. Additionally,
people in the high visual anonymity condition reported feeling more visually anonymous (\(M = 5.31, SD = 1.50\)) than did people in the low visual anonymity condition (\(M = 4.69, SD = 1.46\)), \(t(375) = 4.07, p < .001, d = .42\). Finally, individuals in the close friendship condition (\(M = 4.65, SD = 1.33\)) reported feeling closer to their friends than did those in the acquaintance condition (\(M = 4.01, SD = 1.35\)), \(t(375) = 4.62, p < .001, d = .48\).

**Hypothesis tests.** The hypotheses were tested using a \(2 \times 2 \times 2\) multivariate analysis of covariance (MANCOVA) with number of bystanders, visual anonymity, and relationship as the between-subjects factors. Active defending, passive observing, and the three types of social support were the DVs. Because they were correlated with each of the DVs, degree of hurt and participant sex were included as covariates. Bartlett’s test of sphericity was significant, \(\chi^2(14) = 1133.84, p < .001, \) indicating that the DVs were interrelated, and thus the use of MANCOVA was appropriate. However, Box’s \(M\) test indicated that homoscedacity could not be assumed, \(F(105, 166,061.24) = 1.613, p < .001,\) so multivariate results should be read with caution.

The MANCOVA revealed significant multivariate effects for the number of bystanders, Wilks’ \(\Lambda = .97, F(5, 358) = 2.43, p < .05;\) visual anonymity, Wilks’ \(\Lambda = .95, F(5, 358) = 4.02, p < .001;\) and closeness, Wilks’ \(\Lambda = .89, F(5, 358) = 5.45, p < .001.\) Additionally, there was a significant three-way interaction between the three IVs, Wilks’ \(\Lambda = .96, F(5, 358) = 2.50, p < .05.\) None of the two-way interactions was significant. The univariate results revealed significant differences between each of the conditions and many of the DVs. Table 5 displays the results of the ANCOVA for each independent variable. Individuals in the low number of bystanders condition reported higher levels of active defending and network support and lower levels of passive observing than individuals in the high number of bystanders condition. The groups did not differ in their use of emotional or esteem support. Thus, hypotheses 1a and 1b were confirmed, and hypothesis 1c was partially confirmed.

People in the low visual anonymity condition reported higher levels of active defending, emotional, esteem, and network support and lower levels of passive observing than did those in the high visual anonymity condition. Hypotheses 2a, 2b, and 2c were confirmed.

Individuals in the close friend condition reported higher levels of active defending, emotional support, and network support and higher levels of passive observing than did individuals in the acquaintance condition. The groups did not differ in their use of esteem support. Thus, hypotheses 4a and 4b were confirmed, and hypothesis 4c was partially confirmed.

Of course, each of the above effects must be considered in light of a significant three-way interaction. The predicted interaction between the number of bystanders and visual anonymity (H3) was not significant, Wilks’ \(\Lambda = .99, F(5, 358) = .56, p = .89,\) but there was a significant three-way interaction between the number of bystanders, visual anonymity, and closeness. Univariate results indicated that the interaction was significant for active defending, \(F(1, 372) = 8.64, p < .01,\) partial \(\eta^2 = .02,\) but not the other DVs. An examination of the marginal means indicated that the
interaction between visual anonymity and the number of bystanders operated differently based on whether participants were in the close friend or acquaintance condition (see Figure 1).

For acquaintances, the Tukey B post hoc test indicated that individuals who were in the high number of bystanders and high visual anonymity condition (\(M = 3.48, SD = 1.55\)) reported less active defending than did those in the other three conditions.

![Figure 1](image.png)

**Figure 1** Three-way interaction between number of bystanders, relational closeness, and visual anonymity for active defending.

### Table 5 Estimated marginal means (and standard errors) for IVs associated with DVs.

<table>
<thead>
<tr>
<th>IV: Number of bystanders</th>
<th>High</th>
<th>Low</th>
<th>F</th>
<th>df</th>
<th>partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active defending</td>
<td>4.31 (.10)</td>
<td>4.65 (.10)</td>
<td>6.09*</td>
<td>1, 372</td>
<td>.02</td>
</tr>
<tr>
<td>Passive observing</td>
<td>3.72 (.10)</td>
<td>3.38 (.10)</td>
<td>6.31*</td>
<td>1, 372</td>
<td>.02</td>
</tr>
<tr>
<td>Emotional support</td>
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<td>3.45 (.06)</td>
<td>0.75</td>
<td>1, 372</td>
<td></td>
</tr>
<tr>
<td>Esteem support</td>
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<td>3.50 (.07)</td>
<td>0.81</td>
<td>1, 372</td>
<td></td>
</tr>
<tr>
<td>Network support</td>
<td>3.15 (.07)</td>
<td>3.32 (.07)</td>
<td>2.94†</td>
<td>1, 372</td>
<td>.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IV: Visual anonymity</th>
<th>High</th>
<th>Low</th>
<th>F</th>
<th>df</th>
<th>partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active defending</td>
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<td>4.74 (.10)</td>
<td>14.33***</td>
<td>1, 372</td>
<td>.04</td>
</tr>
<tr>
<td>Passive observing</td>
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<td>3.35 (.10)</td>
<td>8.51**</td>
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<td>3.54 (.06)</td>
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<td>8.77**</td>
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<td>.02</td>
</tr>
<tr>
<td>Network support</td>
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<td>3.34 (.07)</td>
<td>4.77*</td>
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<td>.01</td>
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<th>IV: Closeness</th>
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<th>df</th>
<th>partial η²</th>
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<tr>
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<td>12.03***</td>
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<td>.06</td>
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<td>3.78 (.09)</td>
<td>11.68**</td>
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<td>.03</td>
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<td>3.30 (.06)</td>
<td>7.24**</td>
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<td>.02</td>
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<td>2.57</td>
<td>1, 372</td>
<td></td>
</tr>
<tr>
<td>Network support</td>
<td>3.32 (.07)</td>
<td>3.15 (.07)</td>
<td>3.40†</td>
<td>1, 372</td>
<td>.01</td>
</tr>
</tbody>
</table>

\(^† p < .10, \ ^* p < .05, \ ^** p < .01, \ ^*** p < .001.\)
(high number of bystanders and low visual anonymity: \( M = 4.32, SD = 1.40 \); low number of bystanders and low visual anonymity: \( M = 4.42, SD = 1.41 \); high number of bystanders and low visual anonymity: \( M = 4.18, SD = 1.51 \)). For close friends, the Tukey B test showed that people who were in the low number of bystanders and low visual anonymity condition (\( M = 5.75, SD = 1.16 \)) reported more active defending than did those in the other groups (high number of bystanders and low visual anonymity: \( M = 4.66, SD = 1.45 \); high number of bystanders and high visual anonymity: \( M = 4.43, SD = 1.58 \); high number of bystanders and low visual anonymity: \( M = 4.43, SD = 1.55 \)).

The results partially confirmed H3a: Visual anonymity moderated the effect of number of bystanders. Individuals in the high visual anonymity scenario were less likely to defend the victim in the presence of other bystanders than were individuals in the non-anonymous condition, but only when they were given a scenario in which the victim was an acquaintance. When the victim was a good friend, visual anonymity also moderated the effect of number of bystanders, but people in the low visual anonymity and low number of bystanders condition were more likely to report intent to actively defend the victim than each of the other conditions.

**General Discussion**

Bystanders to cyberbullying incidents have the ability to attenuate the social and mental anguish of victims (Matsunaga, 2010). Observers can act immediately to stop the bullying incident or offer social support to the victim. Despite the positive potential for bystander intervention in cyberbullying, no research has directly examined the predictors of intervention in this context. The results of the two current studies suggest support for the bystander effect. Specifically, the number of bystanders present during the incident, the bystander’s perceived sense of visual anonymity, and the relationship between the bystander and the victim each predict bystander behavior to varying degrees.

**Number of Bystanders, Visual Anonymity, and Relational Quality**

Although both Study 1 and Study 2 indicated that the number of bystanders, visual anonymity, and relational quality were linked to people’s responses to cyberbullying, one major difference emerged between the two studies: When participants in Study 2 read a scenario in which they were acquaintances with the victim, the influence of the number of bystanders was moderated by visual anonymity, such that individuals who were in the anonymous condition and who read the scenario with a high number of bystanders reported a lower likelihood of active defending behavior than did those who read the scenario with a low number of bystanders. However, when people were in the low visual anonymity condition, there was no difference in active defending behavior based on whether they read the high number of bystanders or low number of bystanders scenario. When individuals read a scenario in which they were close friends with the victim, those who were also assigned to the low visual anonymity
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and low number of bystanders condition reported the highest likelihood of active defending behavior. In other words, people were most likely to intervene when they were close friends with the victim, they were identifiable as being online, and there were fewer bystanders witnessing the incident.

The results of Study 2 extend the work of Schwartz and Gottlieb (1980), who found an interaction between bystander visibility to the victim and the presence of bystanders. In that study, the victim was an unknown stranger to the bystander. In Study 2, the same moderating effect occurred, but only when the victim was an acquaintance of the bystander, not a close friend. The methodology of the second study, which required participants to consider a scenario in which they were not close to a victim, likely explains why the interaction emerged in Study 2.

Overall, the present results appear to support the bystander effect and prior research indicating that people are less likely to actively defend cyberbullying victims in incidents in which there are a higher number of bystanders, especially when the victim is an acquaintance and the bystander perceives that the victim and/or perpetrator cannot see him or her.

Theoretical Implications and Predictors of Bystander Intervention

The other results were largely consistent between Study 1 and Study 2 and reflected general support for the bystander effect and the diffusion of responsibility mechanism in cyberbullying contexts, in that the number of bystanders was negatively related to active defending behavior and positively related to passive observing. In line with previous research, as the number of witnesses to an incident increased, individual bystanders were less likely to help. Moreover, the results of both studies support the effect of visual anonymity on bystander active defending, passive observing, and social support behaviors. Finally, Study 2 replicated the results of Study 1 relating to closeness: individuals who read a scenario in which they were a "good friend" with the victim were more likely to actively defend and offer social support to the victim, and less likely to passively observe the incident, than individuals who read a scenario in which they were "acquaintances" with the victim.

In each of these studies, the closeness variable had the largest effect size, indicating that the relationship between the bystander and the victim is a key determinant of bystander behavior. Oh and Hazler (2009) demonstrated that closeness with the victim of a bullying incident was associated with actively defending the victim, and Rigby and Johnson (2006) found that positive attitudes toward a victim of offline bullying were associated with supportive behavior by the bystander. Similarly, Levine and Crowther (2008) established that friendship-related variables were more important than group size in predicting bystander intervention during emergencies. Consistent with these findings, the present studies revealed that closeness to the victim often demonstrated the largest effect of the three IVs hypothesized to predict intervention behaviors.

As individuals continue to associate online with people they also know offline, the role of relationships in online environments is likely to grow in importance (Ellison
et al., 2007). The present studies examined only the viewpoint of a single bystander. Although there are many circumstances in which a single bystander may decline to intervene, other members of the victim’s social network may still decide to take action. Thus, individuals with a larger online social network and more close friends are likely to receive more support and defending than are those with few friends or few close friends. Because social isolation exacerbates the effects of bullying (e.g., Newman et al., 2005), individuals who do not have a large social network, or those who have few close friends, may not only be less likely to receive social support, but will perhaps suffer more extreme emotional consequences. The results of the current study highlight the importance of the social network in cyberbullying incidents. Because bystanders are more likely to help their close friends, individuals with fewer close friends may be less likely to receive support when they are bullied.

Although the data presented in these studies do not differentiate between the underlying causal factors for the bystander effect, there are several potential explanations. Most work on the bystander effect invokes an exchange perspective (e.g., Latané & Darley, 1970), in which people are assumed to be conscious decision makers who strategically weigh the relative costs and rewards of nonintervention. In Study 2, individuals who were anonymous, in the presence of many other bystanders, and only acquaintances with the victim may have perceived very few costs to not intervening, especially when compared to someone who is a close friend with the victim, visually identifiable, and one of few bystanders.

Or, as suggested by Milgram (1970), people may not have the capacity to make fully informed bystander intervention decisions when faced with multiple competing goals and decisions. Bounded rationality, which examines the actual factors that individuals use to make choices in a complex world (Simon, 1955), suggests that decision makers face too many demands on their attention to reasonably consider every potential choice (March, 1994). For instance, in online environments, where people are bombarded with large quantities of information, users often employ cognitive shortcuts (i.e., heuristics) when assessing the credibility of information (Metzger, Flanagan, & Medders, 2010). This may explain why the closeness variable had the largest effect size in both studies. When individuals are limited in their decision-making capacity, they may rely on intuitive judgments (Kahneman, 2003). One such intuitive judgment might involve the importance of helping close friends (Levine & Crowther, 2008). Although the current studies cannot directly address this issue, future research should elucidate the underlying mechanisms of the bystander effect in cyberbullying.

**Practical Implications**

As stated by Darley and Latané (1968) in their seminal paper on the bystander effect, “If people understand the situational forces that can make them hesitate to intervene, they may better overcome them” (p. 383). When individuals—either victims or bystanders—are aware of the factors that contribute to nonintervention, they can actively seek assistance or offer support. In one study, students who learned about the
bystander effect in class were more likely to intervene in an emergency later (Beaman, Barnes, Klentz, & McQuirk, 1978). Future research should consider if education about the situational factors that abate online intervention (e.g., visual anonymity, number of bystanders, and relational closeness) can increase intervention. Given the large number of social connections individuals have in online environments, individuals could be encouraged to intervene regardless of whether the victim is a close friend or an acquaintance. Additionally, victims who are aware of these issues may be more likely to seek the social support they need to recover from the bullying incident. Both previous research (e.g., Kowalski et al., 2012) and the descriptive data in Study 2 suggest that cyberbullying occurs relatively frequently among college students, which points to the need for such education programs to target college students, specifically. Practitioners should advise college students to be aware of the issues under examination in the current research when explaining the importance of bystander intervention.

Limitations and Future Directions

The current studies are not without their limitations. The results are based on self-report data. Participants may have overestimated their tendency to defend victims of cyberbullying due to a social desirability bias. One method for addressing this concern would be to use behavioral DVs in a laboratory setting. Future research could use mock-up social networking site profiles and offer participants an opportunity to act in some way to protect a confederate.

Researchers have noted the relatively atheoretical nature of cyberbullying research (e.g., Tokunaga, 2010). The present studies take an initial step in addressing this concern by extending the literature on the bystander effect to cyberbullying. Future research should consider other theories which may explain or predict the behavior of cyberbullying bystanders. For instance, in hostile online contexts where victims and bystanders are truly anonymous (e.g., online message boards like 4chan), researchers can apply SIDE (Spears & Lea, 1994) to better understand the interplay among deindividuation, group membership, contextual norms, and intervention behavior. Related to this point, future studies should explore the potential mediating and moderating variables related to decision-making in bystander intervention. Given that a sense of personal responsibility is associated with the tendency of bystanders to take action (Latané & Darley, 1970), in cyberbullying incidents, a sense of personal responsibility could mediate the relationship between the number of bystanders and intervention behaviors. Or, if bystander intervention behavior can be explained by bounded rationality, individuals under a large cognitive load may be less likely to intervene because they cannot fully consider the consequences of their inaction. Studies suggest that people under high cognitive load are less likely to respond in a socially appropriate manner to in-person deviant behaviors (Fonseca, Brauer, Moisuc, & Nugier, 2013). This research should be extended to further understand the underlying explanatory mechanisms relating to bystander intervention during cyberbullying incidents.
Because there is currently no typology developed specifically for cyber bystanders, the present studies adapted the measures developed by Salmivalli and Voeten (2004) and Xu and Burleson (2001) to assess offline intervention and support behavior. Future research should build on the results of the present studies by further investigating which bystander behaviors are especially salient in the online environment. Moreover, research should elucidate context-specific behaviors (such as flagging an offending post via Facebook using a built-in reporting mechanism). An unstated assumption of the present studies is that bystander intervention is a prosocial behavior. However, scholars have noted the propensity for bystanders to “join in” on the bullying and become perpetrators (e.g., Salmivalli, 1999). Future research should consider this bystander role and explore its correlates in the cyberbullying context.

Conclusion

The findings presented in this research suggest that several variables, including the perceived number of bystanders, visual anonymity, and relational closeness, are linked to bystanders’ propensity to intervene during a cyberbullying incident. The theoretical and practical implications of these results are wide-ranging. First, these studies extend a long line of work on the bystander effect and the diffusion of responsibility into the cyberbullying context. Second, they utilized a novel but conceptually necessary operationalization of anonymity (visual anonymity), which more closely matches the experiences of modern communication technology, such as Facebook. Furthermore, closeness with a cyberbullying victim was a key predictor in determining bystander intervention, an important finding given the propensity for individuals to communicate online with people they also know in offline environments. Overall, examining the variables expected to influence bystander intervention in cyberbullying provides further insight into the interplay of technology, relationships, and bullying behavior.

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Notes

[1] Because of the potential for inflated Type-1 error inherent in the use of multiple tests, the false discovery rate (FDR) procedure developed by Benjamini and Hochberg (1995) and described by Matsunaga (2010) was applied to the regressions. Results indicated that the significance level for each of the beta values was below the corrected significance level derived using the FDR procedure.

[2] Because detecting interaction effects in field research can be difficult, we included only significant controls. However, the significance level for all variables in the active defending and passive observing regressions remained the same when including all control variables.
from the social support regressions (i.e., participant sex, degree of hurt, and closeness to the perpetrator). Similarly, the significance level for all variables in the social support regressions remained the same when removing all non-significant controls. All beta values either remained the same or changed by less than .01.

References


**Appendix 1. Study 2 Scenario**

**Female**
You log in to your Facebook account, and you notice that your good friend Jane had her profile hacked. Someone hacked into Jane’s profile and posted embarrassing, inappropriate pictures and a status update that says, “I’m a slut.” You look down at the chat box, and notice that you are logged into chat and Jane is online. Jane has only about 170 Facebook friends, so it is not likely that many other people have noticed the status updates and pictures.

**Male**
You log in to your Facebook account, and you notice that your good friend Steve had his profile hacked. Someone hacked into Steve’s profile and posted embarrassing, inappropriate pictures and a status update that says, “I’m a pussy.” You look down at the chat box, and notice that you are logged into chat and Steve is online. Steve has only about 170 Facebook friends, so it is not likely that many other people have noticed the status updates and pictures.

**Note:** The above versions represent the close relationship, low number of bystanders, not visually anonymous condition.