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Bystander Intervention in Cyberbullying

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Bystander Intervention in Cyberbullying

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Dedication

To Lesley, who always reminded me that a Ph.D. is a marathon, not a sprint.

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Bystander Intervention in Cyberbullying

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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 often take action to stop a cyberbullying incident or offer support to the victim. Two studies examined the association between several variables which were expected to influence the propensity for a bystander to take action in cyberbullying incidents – the number of bystanders, the depersonalization/anonymity of the bystander, and the relational closeness between the bystander and the victim. Moreover, the first study addressed the need for more descriptive research into cyberbullying by examining the strategies and topics used by perpetrators. Results of both Study 1 and Study 2 provided support for the diffusion of responsibility effect. Specifically, a higher number of bystanders was negatively associated with a bystander's propensity to intervene and stop the incident. In Study 2, this effect was moderated by both depersonalization and closeness. That is, individuals were most likely to intervene when they did not feel depersonalized, the victim was a close friend, and there were a low number of bystanders. Moreover, in both Study 1 and Study 2 the perceived anonymity of bystanders negatively related to their propensity to intervene, and closeness with the victim was

associated with a higher likelihood to intervene and support the victim. Finally,

descriptive data illustrated the types and strategies of cyberbullying episodes which occur

in a college-aged sample. Altogether, the results shed light on the interplay of context,

relationships, and technology in the behavior of bystanders to a cyberbullying episode.

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Chapter 1: Introduction

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, and 96% own a cell phone (Smith, Rainie, & Zickuhr, 2011). As individuals continue to increase their technology use in a variety of contexts, the prevalence of hurtful online behaviors increases, as well. People say and do things with the capacity to hurt or emotionally injure each other. Accusations, threats, lies, and criticism often elicit hurt feelings in friendships and romantic relationships (Feeney, 2004; Vangelisti, 1994). Bullying – broadly defined as a set of behaviors that causes physical, mental, and/or material harm (Matsunaga, 2009) – can also be considered a hurtful act, in that, similar to hurtful messages (Vangelisti & Young, 2000), it results in painful emotional and relational consequences for the target of the behavior (Madlock & Westerman, 2011).

Although bullying is often only cited as a concern amongst middle and high school students, it is a frequent and common behavior regardless of age. Between 25 and 30% of U.S. employees report being bullied at their workplace sometime during their work history, and 10% are being bullied at any given time (Keashly & Neuman, 2005; Tracy, Lutgen-Sandvik, & Alberts, 2006). Indeed, upwards of 50% of college students report being bullied in an online environment, and 30% of victims say that they were targeted for the first time in college (Kowalski, Giumetti, Schroeder, & Reese, 2012). Amongst college students, 39% reported experiencing some form of victimization by a peer within the previous year (Kowalski et al., 2012), and researchers now generally

accept that cyberbullying – or bullying that occurs via the use of technology – in the college environment is a significant problem affecting a sizeable number of people (e.g., Baldasare, Bauman, Goldman, & Robie, 2012).

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 bullying episodes occur in the presence of others (O'Connell, Pepler, & Craig, 1999), and 88% of middle-school students report having witnessed a bullying episode (Hoover, Oliver, & Hazler, 1992). Despite the fact that bystanders are sometimes present, they often do not intervene – choosing instead to passively observe the situation or even join in on the bullying behavior (O'Connell et al., 1999). The inaction of an observer has the potential to augment the negative effects of the bullying on the victim, who is affected not only by the hurtful behavior of the bully, which can convey rejection, but also the feeling of isolation spurred by the inaction of the bystander (Kowalski & Limber, 2007). In these cases, even when the bystander wants to intervene, that message is not always clear to the victim. Hence, the isolation inherent in not receiving help augments the trauma experienced by the victim (Kowalski & Limber, 2007). Whether the bystander directly intervenes to stop the bullying or provides emotional support to the victim, intervention can attenuate the negative consequences of bullying (Matsunaga, 2010). Overall, more research is needed to examine the predictors and consequences of observer behavior on bullying (Kowalski & Limber, 2007).

The context of the bullying episode is one factor which may play a critical role in the behavior of bystanders. Cyberbullying – or bullying behavior which occurs via

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electronic or digital media – has received increased attention by both researchers and the popular press (Tokunaga, 2010). Recently, the story of Tyler Clementi was extensively covered by major news outlets. Tyler committed suicide after his roommate, Dharun Ravi, set up a webcam to broadcast video Clementi kissing another man in their dorm room (Parker, 2012). Clementi's story is particularly relevant to the present study, in that Ravi purposely targeted Clementi in a manner in which other people could watch. Unfortunately, no one intervened to stop the broadcast or provide support to Clementi, and he committed suicide two days after the incident. Despite the capacity for technology to lead to increased prosocial communication (e.g., Walther, 1996; McKenna & Bargh, 1999), several features of online interaction – including anonymity and the presence of others – may relate to passive bystander behavior, such as not intervening to stop a bully.

The present study investigates the effect of several variables – including the presence of bystanders, anonymity, and relational closeness – on bystander behavior in online bullying. Ultimately, this research aims to employ traditional theories and models of bystander behavior to understand and predict communication during online bullying episodes.

Chapter 2: Literature Review and Rationale

BULLYING AND CYBERBULLYING: DEFINITIONS AND RAMIFICATIONS

Research on bullying and cyberbullying has been plagued by definitional ambiguity, (Mills & Carwile, 2009). Also, connecting the common characteristics of in-person bullying to cyberbullying presents several challenges. The following section examines several key definitions of traditional bullying, as well as caveats related to the definition of cyberbullying.

Randall (1997), when examining the impact of bullying on adults, defined it as "the aggressive behavior arising from the deliberate intent to cause physical or psychological distress to others'' (p. 4). More specifically, bullying is a definitively negative behavior designed to inflict harm. Bullying is a deliberate act and is usually interpreted by the victim as intentional, whereas the motivation of other hurtful behaviors, such as teasing, is often ambiguous (Mills & Carwile, 2009). Many bullying incidents are also enacted over several episodes (Olweus, 1993; Espelage & Swearer, 2003). Additionally, there is frequently a power differential between bully and victim, in which the victims are in a less powerful position and cannot defend themselves alone (Olweus, 1993).

The definition of cyberbullying largely overlaps with the definition of traditional bullying, in that cyberbullying is often an aggressive behavior or negative action designed to inflict harm or emotional injury on others (Tokunaga, 2010). However, there are some notable differences. First, cyberbullying occurs via the use of an electronic device. Hence, the context and location of the bullying events are more varied. Rather

than being limited to the workplace or school, cyberbullies can target victims at home, regardless of whether they are physically co-present (Patchin & Hinduja, 2006). Also, some researchers have argued that the repetitive aspect of bullying episodes is not a necessary component of cyberbullying (Slonje & Smith, 2007). Since messages are often persistent online and seen by a variety of audiences at different time points, a single message can have repeated effects over time. Finally, the common power differential in traditional bullying (e.g., Olweus, 1993) is frequently associated with physical strength or appearance. In online environments, where physical strength holds less sway, the power differential between bully and victim is a secondary consideration.

Ultimately, a broad but direct definition is necessary for the consideration of the central questions in the present study. Hence, the following definition of cyberbullying, originally proposed by Baldasare et al. (2012) is posited: "a broad range of behaviors or actions in which a person uses technology in a way that is perceived as aggressive or threatening to another person" (p. 128).

Although the aforementioned definition provides details concerning the prevalence of cyberbullying and the differences between cyberbullying and traditional bullying, more descriptive research is needed to clarify the nature of online bullying incidents. Few studies have examined basic information about the types of cyberbullying which occur (Tokunawa, 2010), particularly amongst college students (Kowalski et al., 2012). Moreover, Parks (2009) has called for more descriptive research into online communication behavior. Hence, one focus of the present study concerns the types of cyberbullying incidents that occur in a college-aged sample.

In spite of the lack of descriptive research into the nature of cyberbullying incidents, there are two factors which might differentiate between traditional and cyberbullying episodes that warrant increased attention: the presence of additional bystanders, which may lead to a diffusion of responsibility effect, and the anonymity often afforded by mediated environments. The opportunity for witnesses to observe bullying in online environments might lead to a *diffusion of responsibility* effect (Darley & Latané, 1968a). During social situations, diffusion of responsibility occurs when bystanders choose not to intervene during an emergency situation when in the presence of other witnesses. In online, public interactions, multiple people might witness a bullying episode, which could relate to a lower chance of intervening on behalf of the victim.

Although 40-50% of cyberbullying victims are aware of the identity of the perpetrator, the potential anonymity offered by mediated communication means that victims may not know who is targeting them (Patchin & Hinduja, 2006). Related to bystander behavior, individual bystanders may not be identifiable, either. The average Facebook user has 245 online contacts, and the top 10% of users have over 780 friends (Hampton, Goulet, Marlow, & Rainie, 2012). Any given message may be viewed by a sizeable portion of those individuals. For example, if someone is consistently posting hurtful comments on a victim's profile, it is possible that hundreds of people may see the hurtful comment. If users have not restricted their profile, posts can have a possible audience of upwards of 150,000 individuals (Hampton et al., 2012). It is likely that an individual bystander is not identifiable by either the victim or the bully, since the potential number of witnesses is so large.

The relationship between a bystander, the bully, and the victim should also play a role in bystander behavior. In traditional bullying incidents, individuals' closeness with a victim relates to the likelihood they will defend the victim, and closeness with a bully is associated with an increased likelihood of passively observing the incident or joining in with the bully (Oh & Hazler, 2009). As more individuals transition their face to face (FtF) relationships online (Lampe, Ellison, & Steinfeld, 2007), it is important to consider relationships between bullies, victims, and bystanders when examining bystander intervention.

The following section outlines the negative effects of bullying behavior and the positive effects of bystander intervention, before reviewing the theoretical rationale for examining bystander behavior in an online context. The largely harmful effects of bullying on victims, as well as the potential for alleviating those effects via intervention, underscores the importance of understanding when and if a bystander might intervene.

EFFECTS OF BULLYING

Victims experience a variety of immediate and long-term negative outcomes related to being bullied. Targets of bullying often feel hurt, embarrassed, sad, and angry as a result of being harassed (Shapiro, Baumeister, & Kessler, 1991). In a cross-national study of the relationship between bullying and psychosocial outcomes, bullied victims were more likely to be socially maladjusted and have a higher rate of health problems (Nansel, Craig, Overpeck, Saluja, & Ruan, 2004). Young adults who were bullied during childhood are often lonely and have lower self esteem as adults than individuals who were not bullied (Tritt & Duncan, 1997). Finally, a meta-analysis of the effects of peer

victimization on psychological adjustment found a strong relationship between victimization and depression, loneliness, and lower self-esteem (Hawker & Boulton, 2000). Cyberbullying is also associated with several unique, largely negative outcomes. Being a victim of cyberbullying was associated with an increased chance of Internet dependence, which refers to an individuals' emotional attachment to the Internet. Additionally, victims of online bullying are also often victims of traditional bullying, which means they are being targeted in multiple contexts and domains (Vandebosch & Van Cleemput, 2009). Clearly, bullying behavior has potentially long-lasting, negative effects on victims.

Furthermore, as mentioned above, some research suggests that the negative effects of bullying are exaggerated by social isolation (Kowalski., 2007; Newman, Holden, & Delville 2005). Since the intervention of outsiders has the potential to attenuate the social isolation often associated with especially hurtful bullying episodes, the present study investigates the role of outside observers in cyberbullying. The following section reviews the extant research on bystander intervention in a variety of contexts, and extends the research to predict behavior during cyberbullying episodes.

BYSTANDER BEHAVIOR
Bystanders to a bullying episode can behave in several ways. One form of bystander intervention involves providing support directly to the victim, such as showing empathy and being affectionate with the victim (Matsunaga, 2010). Other forms of bystander support in bullying include more direct, physical actions, such as actively defending the victim by responding directly to the bully (Pozzoli & Gini, 2010). Finally,

bystanders might passively stand by, merely observing the episode (e.g., Gini et al., 2007). The following paragraphs review the extant literature related to each of these intervention behaviors.

Social support. Much evidence underscores the positive potential for third-party social support for bullied victims. Individuals who receive or seek social support following a bullying incident report lower levels of stress and increased behavioral adjustment as compared to victims who do not seek or receive social support (Smith, Talamelli, Cowie, Naylor, & Chauhan, 2004). Victims of bullying who receive inadequate social support experience negative mental health outcomes (Rigby, 2000). In an examination of college-aged bullying victims, receiving emotional support was positively related to higher levels of overall well-being, which generally refers to life satisfaction (Matsunaga, 2010).

Other research into social support for victims of bullying has investigated emotional and esteem support, specifically. Emotional support refers to communication behaviors which show empathy and affection, and esteem support refers to behaviors designed to improve the self-esteem of recipients and increase their positive feelings (Xu & Burleson, 2001). Both esteem support and emotional support positively relate to a victim's ability to positively reappraise the situation, by helping the victims realize that the bullying incident was something that could be overcome. In turn, positive reappraisals relate to higher reports of well-being and life satisfaction (Matsunaga, 2011). A lack of support for bullied victims can have drastic consequences – one study found that victims

who do not receive support are more likely to think about and consider suicide than are those who do receive support (Rigby & Slee, 1999).

The recent work on social support in bullying episodes (e.g., Matsunaga, 2010; Matsunaga, 2011) extends a wealth of research on the positive benefits of social support in a variety of contexts (e.g., MacGeorge, Feng, & Burleson, 2011), and provides evidence that supportive communication following a bullying episodes can have beneficial consequences for the victim.

Active defending and passive observing. Other types of intervention are targeted at the bully. Salmivalli, Lagerspetz, Bjorkqvist, Osterman, and Kaukiainan (1995) found evidence for several bystander roles. Defenders actively intervene on behalf of the victim by either confronting the bully directly, seeking help from another third-party, or comforting the victim after the bullying episode (Salmivalli et al., 1995). Additionally, interventions targeted toward the bully tend to be more aggressive than those directed toward the victim specifically or the bully-victim dyad (Hawkins, Pepler, & Craig, 2001). Overall, active defending and supportive interventions tend to be effective in ceasing bullying episodes. In one study, over 55% of active defending interventions successfully ceased the bullying incident (Hawkins et al., 2001).

Passive observing occurs in cases where a bystander does not intervene. In such cases, the victim might experience increased feelings of social isolation, further augmenting the deleterious social effects of the bullying behavior (Kowalski & Limber, 2007; Newman et al., 2005). In one study, a sample of individuals who were bullied during high school and who reported feeling isolated during high school were more likely

to report stress symptoms (such as anxiety and depression) as a college student than bullied individuals who did not feel isolated during high school. This evidence suggests that feelings of isolation exacerbate the negative effects of bullying.

Despite the positive potential for bystander intervention in bullying and the negative outcomes of passively standing by, little research has examined the predictors of bystander intervention or victim support – particularly in an online context. To date, the only studies to examine bystander intervention in bullying episodes have focused on traditional bullying behavior. Additionally, the limited research on bystander intervention in bullying episodes has focused on individual differences (Pozzoli & Gini, 2010), gender (Gini et al., 2008), attitudes toward the victims (Rigby & Johnson, 2006), social categorization processes and the likelihood of helping the in-group (Gini, 2006), and the effect of empathy and self-efficacy (Gini et al., 2007) as predictors of helping or offering support to a bullying victim.

For example, researchers examined active defending and passive bystander behavior during bullying episodes amongst adolescents (Pozzoli & Gini, 2010). Results indicated that problem-solving strategies, such as thinking about what they could do to help the victim, were associated with increased helping behaviors and a lower chance of bystanders passively observing the bullying episodes without intervening. Additionally, a sense of personal responsibility for helping victims was positively related to actively defending a victim. Gender also plays a role in active defending or bystanding behavior, in that females were more likely to both actively defend and passively observe bullying episodes (Gini et al., 2008). Other research demonstrated that positive attitudes toward

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the victim was associated with greater helping behavior (Rigby & Johnson, 2006). This finding was further supported by additional research which showed increased observer liking for a victim as compared to a bully, particularly when the victim was considered a member of the observer's social circle (Gini, 2006).

Despite several lines of research which have investigated the predictors of bystander behavior in a bullying context, such as gender, attitudes toward the victim, and personality variables, there are some features of online environments which warrant increased attention, particularly when examining outcomes in cyberbullying episodes. The following section outlines the extant theoretical literature on computer-mediated communication, which offers a rationale for how, when, and why bystander intervention is likely to occur (or not occur) online. Some features of online environments can influence the propensity for a bystander to intervene, including the number of bystanders to a bullying episode, and the anonymity afforded by the communication context.

COMPUTER-MEDIATED COMMUNICATION AND CONTEXTUAL FEATURES

Many of the early perspectives on communication technology focused on the adverse effects of technology on the individual (e.g., Kraut et al., 1998), or the cold, impersonal nature of the Internet due to the lack of nonverbal cues (e.g., Sproull & Kiesler, 1986). These approaches often labeled the cues-filtered-out perspectives (CFO; Walther & Parks, 2002) take a technological determinism approach, in that they suggest the lack of social context relates to increased negative online behavior. A straightforward, literal extension of these theories into the cyberbullying context would infer that the lack of warmth in online environments might lead to anti-normative, hurtful, and aggressive

behavior. In other words, these perspectives imply that bystanders would be less likely to intervene in a positive manner, or perhaps more likely to join in with the bully or to exhibit other hurtful behaviors, such as passively observing or ignoring the victim. However, more recent theories of mediated interaction, such as the hyperpersonal perspective (Walther, 1996) imply alternative predictions, suggesting that individuals might behave in a more positive, helpful manner in an online environment.

The hyperpersonal perspective set out to explain unexpected findings of previous research in which individuals communicating via CMC formed impressions that were more positive and relationships that were more intimate than individuals communicating FTF (Walther, 1996). Much of the theory explains how receivers might exaggerate attributions regarding perceptions of a message sender, or how a message sender might strategically self present himself or herself, resulting in overly positive impressions. However, an additional component of the model argues that certain characteristics of the channel – such as lack of synchronicity, or the degree to which messages are exchanged instantaneously – might allow individuals to exploit the nature of the channel to carefully construct and craft messages. Beyond features of the channel, the theory proposes that, without the need to focus on the nonverbal behavior of a partner, the available cognitive resources can be reallocated to focus on message construction (Walther, 1996). Based on the hyperpersonal approach, an online environment could provide several advantages to bystanders who might intervene to stop a bullying incident or provide support to a victim. Bystander intervention requires several potentially difficult decisions related to message strategy and construction. When examining support and intervention behavior in

cyberbullying, the online environment allows bystanders to carefully consider and design their support or intervention messages without time pressure.

Another theory in which interpersonal behaviors are examined in light of different structural features of CMC is the impression management model of strategic channel use (O'Sullivan, 2000). The impression management model presumes that self-presentation is an important goal in many forms of CMC, and argues that channel selection and communication behavior often result from a consideration of the relevant features of a medium which may benefit individuals in presenting themselves strategically. The channel features in the model relate to the richness (e.g., Daft & Lengel, 1994), synchronicity, and the symbolic meaning of a medium within a social context. Contrary to the linear predictions offered by CFO perspectives, O'Sullivan (2000) posits that leaner channels (such as online contexts) may be beneficial in certain interactions. Leaner channels provide advantages because message senders can control the timing, duration, and content of information during the interactions. Relevant to the present study, when confronting someone, individuals might be more likely to choose a lean, text-based medium, even though such a message is likely to be equivocal and perhaps ambiguous, because they can more carefully control the content of the message (O'Sullivan, 2000).

In summary, several contextual features of online environments, such as increased time for editing and crafting messages, allow message senders to undertake equivocal communication tasks (such as confronting a bully) with more ease than in offline contexts. Thus, both the hyperspersonal (Walther, 1996) and impression management

models (O'Suillivan, 2000) provide an overarching rationale as to why individuals might be likely to intervene in cyberbullying incidents.

The above approaches predict why bystanders might intervene in an online environment. However, other features of mediated communication might predict whether bystanders take action to support a victim, confront a bully, or passively observe the incident. Indeed, there are several mechanisms that are especially salient in online contexts – such as the presence of multiple bystanders/witnesses and the perception of anonymity – that should prove especially relevant in the examination of bystander behavior in a cyberbullying context. The following sections review the research on the diffusion of responsibility effect, anonymity in a variety of contexts, and relationships, and uses that research as a framework for explaining and predicting bystander behavior in cyberbullying.

DIFFUSION OF RESPONSIBILITY

Diffusion of responsibility is an extensively researched, consistently supported phenomenon of human behavior (for a review, Latané & Nida, 1981) which posits that individuals are less likely to exhibit prosocial behavior during an emergency situation when other bystanders are present. Initial research emerged concurrent with a series of well-documented events in which bystanders did not intervene in emergency situations. For instance, although accounts of the number of witnesses vary widely (Manning, Levine, & Collins, 2007), the rape and murder of Kitty Genovese in New York in 1964 evoked controversy and outrage, as it was reported that upwards of 38 witnesses saw or heard the crime without intervening.

One of the initial studies on bystander intervention found that, when viewing a confederate suffering from an epileptic seizure, 85% of the 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, 1968a). This effect has been observed in a variety of time-critical contexts, including when a perpetrator causes an emergency or commits an antisocial act, such as watching a theft in progress (Howard & Crano, 1974; Latané & Darley, 1970). Additionally, the effect appears to hold in other, non-emergency situations. For instance, when in the presence of others people are less likely to leave a large tip (Freeman, Walker, Borden, & Latané, 1975) or help with a flat tire (Hurley & Allen, 1974). Overall, the research suggests that people are less likely to take action in an emergency situation or exhibit prosocial behavior when other people are present.

The diffusion of responsibility effect is not just based on the physical presence of others. Several recent studies have extended the diffusion of responsibility effect to online environments. In one example, researchers posted requests for help in a public, online message board. Message board participants were more likely to quickly respond to the requests when there were fewer active, online posters on the board, particularly when the bystander was not asked directly by name for help (Markey, 2000). 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, Thompson, & Wuensch, 2005). The finding stands in other virtual environments, as well. In one study, researchers posted a request for help on various online message boards. The results

confirmed the prediction -- people were less likely to respond to the request for help on medium sized message boards (100-250 participants) than smaller boards (1-100 participants), even when controlling for the frequency of daily activity on the board (Voelpel, Eckhoff, & Forster, 2008).

There is additional research which suggests that a diffusion of responsibility effect will occur in cyberbullying episodes. Consistent with previous research on the diffusion of responsibility effect, in situations where there is low potential for immediate danger to the victim, individuals are more likely to intervene when there are fewer (or no) bystanders than when there are multiple bystanders. In a study in which the immediate danger of a situation was manipulated, the diffusion of responsibility effect held in the low immediate danger condition (Fischer, Greitemeyer, Pollozek, & Frey, 2006). In other words, when the immediate danger was low, individuals were more likely to intervene when there were no other bystanders than when in the presence of others. 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 additional bystanders. In an online context, the fact that the bully and victim are geographically distributed often means that the threat of immediate danger is low. Hence, the presence of other bystanders might have an especially important effect on whether someone intervenes in online bullying episodes.

The diffusion of responsibility effect has clear implications for individuals who observe a bullying episode, although the effect has not been directly investigated within the context of bullying (Olweus, 2001). As O'Connell et al. (1999) note, in bullying

episodes, "…peers are frequently present and may diffuse responsibility, thereby reducing the impetus to intervene" (p. 439). Salmivalli (2010) argues that, since bullying episodes tend to have multiple witnesses, the diffusion effect might negatively relate to bystander intervention. In summary, researchers have hinted that diffusion of responsibility might play a role, but have not investigated the effects of the number of bystanders on intervention behavior (e.g., Gini, 2006, Olweus, 2001, Salmivalli, 2010). Bystander intervention in bullying episodes is analogous to the previous research on the diffusion of responsibility effect inasmuch as intervening to stop the bullying event or offer support for the victim (outlined below) are prosocial behaviors (O'Connell et al., 1999). Moreover, as noted above, the physical separation between bully, victim, and bystander means the immediate danger of the situation is lower, which should strengthen the diffusion effect in mediated contexts (Fischer et. al., 2006). Overall, although the diffusion of responsibility phenomenon has not been directly investigated in a bullying or cyberbullying context, it is likely to play a role in the process of bystander intervention

ANONYMITY/DEPERSONALIZATION

The diffusion of responsibility effect sometimes functions differently based on factors other than the presence of bystanders, such as the perceived anonymity of the observer (Schwartz & Gottlieb, 1980). In their extension of the previous work on the diffusion of responsibility effect, Schwartz and Gottlieb manipulated the number of other bystanders and whether or not the other bystanders and the victim were aware that the observer was present. In other words, Schwartz and Gottlieb operationalized anonymity in terms of whether or not the victim knew the bystander was present. Consistent with

their predictions, the number of other bystanders interacted with anonymity – individuals who were anonymous (i.e., the victim was not aware of their presence) and who knew there were other bystanders had significantly slower reaction times than individuals in the other conditions (Schwartz & Gottlieb, 1980). This finding reinforces the need to examine the effect of other bystanders in concordance with whether or not the bystander is identifiable to the victim, other witnesses, or even the bully. Research into mediated communication also noted that individuals' true identities are often anonymous in online environments, and the perception of anonymity affected the enactment of both pro- and anti-social behavior (Joinson, 2001; Spears & Lea, 1994; Walther, 1996;). Hence, it is likely that anonymity influences bystander behavior in bullying episodes as well.

The most widely researched model concerned with anonymity in online contexts is the Social Identity Model of Deindividuation Effects (SIDE) (Lea & Spears, 1991; Spears & Lea, 1992; Spears & Lea, 1994). In the SIDE model, anonymity is labeled as deindividuation, which is defined as a state of decreased self-awareness, and leads to fewer adherences to societal and group norms and standards (Zimbardo, 1969). Early CMC researchers suggested online deindividuation as a contributing factor to anti-normative behavior online, such as flaming (Sproull & Kiesler, 1986). However, the SIDE model proposed that deindividuation did not lead to anti-normative behavior directly, but rather shifted focus from individual-level behaviors to group-level behaviors (Lea & Spears, 1992). Although the SIDE model has been used to accurately and successfully predict behavior in small groups (e.g, Spears & Lea, 1994; Lea & Spears, 1995), the design and function of new forms of technology in which cyberbullying might

occur limits the scope of the theory in those contexts. For instance, social networking sites such as Facebook include pictures and detailed identifying information about participants (Walther, 2011). Similarly, in text messaging, online chat, and email contexts, people are often aware of who they are speaking to. Hence, when considering whether or not individuals might intervene in a bullying incident, deindividuation, as defined by the SIDE model, is not likely to affect bystander behavior. Rather, in line with the operationalization implemented by Schwartz and Gottlieb (1981), anonymity should be defined in terms of whether or not bystanders believe themselves to be visible. These critiques have been noted by Walther (2011) and others (e.g., Lapidot-Lefler & Barak, 2012) in the CMC context as well. For example, traditional research into online anonymity did not take into account many factors which characterize the current online environment, such as perceived invisibility of communicators, which can often lead to antinormative behavior (Lapidot-Lefler & Barak, 2012). Walther posits that this form of anonymity is actually depersonalization – the inability to tell who is who online. As opposed to the traditional definitions of deindividuation and anonymity, depersonalization applies in online environments in which people are interacting with people they already know in a FTF context (Walther, 2011).

This operationalization of anonymity (depersonalization) is supported by previous work on the diffusion of responsibility effect (e.g., Schwartz & Gottlieb, 1981). Latané and Nida (1981) summarize research on the diffusion of responsibility effect, and show that the effect is weaker when the victim could see the bystander (but not vice-versa) than when the bystander could see the victim but was not visible to the victim. In the

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cyberbullying context, this means that bystanders should be especially likely to respond when the victim knows they are present and/or aware of the bullying incident.

RELATIONSHIPS

As noted above, early research into mediated communication emphasized the often cold, impersonal nature of online interaction (e.g., Sproull & Kiesler, 1986). Some researchers went so far as to suggest that increased Internet use for communication purposes was associated with detachment from family interactions, increased feelings of loneliness, and a higher rate of depression (Kraut, Patterson, et al., 1998), although follow-up research found that these correlations were moderated by self-esteem and extroversion (Kraut, Kiesler, et al., 2002). Nie and Erbring (2000) reported that those using the Internet for more than 10 hours per week reported spending less time with family members and friends, which could result in higher levels of loneliness. Nie (2001) suggests that social Internet use faces a battle against the "inelasticity of time." The more time people spend communicating online, the less time they have to communicate FtF – which, according to Nie, is a necessity for well-being.

Implicit in the above findings relating to the correlation between Internet use and withdrawal from relationships and increased levels of loneliness is the idea that people are interacting online with a separate group of people than those whom they communicate with in-person. For example, Kraut et al. (1998) argue that people who communicated online withdraw from their offline family networks. However, mediated communication often entails interaction with family, friends, and acquaintances. For example, on social networking sites relational development often begins offline or FtF

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before individuals interact online (Lampe, Ellison, & Steinfeld, 2007). When interacting via other forms of technology, such as text messaging, individuals often must have their partner's contact information in order to send a message, which implies that they know each other in an offline context. Overall, the research suggests that individuals are often communicating online with people they know in offline contexts as well. Hence, it is likely that the quality of the relationship matters when determining whether or not individuals intervene during a cyberbullying episode. For example, someone might be more likely to intervene and help a close friend or family member than someone they consider an informal acquaintance.

Some research on bystander intervention in traditional bullying has specifically examined the role of relationship quality and status on bystander behavior. One recent study examined college students' recalled experiences as a bystander to a traditional, offline bullying episode (Oh & Hazler, 2009). Results of the study reinforced the importance of considering the relationship between a bystander and both the bully and the victim. When individuals reported feeling close to a victim, they were more likely to exhibit helping behavior, such as defending the victim. On the other hand, reported closeness with a bully predicted negative outcomes, such as joining in with or supporting a bully's aggressive behaviors (Oh & Hazler). Relating to helping behavior more generally, Darley and Latané (1968b) found that friends of a victim were more likely to intervene during emergencies than strangers. Levine and Crowther (2008) found that group- and friendship-related variables were more important than group size when determining whether a bystander intervenes in a hypothetical street violence incident.

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These results overlap with other bystander intervention research examining helping behavior from a self-categorization perspective. Results suggest that individuals are more likely to help victims whom they perceive to be part of their "in-group" rather than an "out-group" (Levine, Cassidy, Brazier, & Reicher, 2002). Similar mechanisms should operate in the context of cyberbullying, in that friends, who are likely considered part of a bystander's "in-group" should be more likely to help than individuals who do not report feeling close to the victim.

Support for the victim is likely to be influenced by the nature of the relationship between the victim and the bystander. Most research on social support in general has focused on the recipient. However, Dunkel-Schetter and Skokan (1990) posited several potential determinants of when someone might provide social support, including relational quality. In marital relationships, the amount of support received on a daily basis from a spouse is positively correlated with relational satisfaction (Hobfoll & Lerman, 1989). Although these studies center mainly on marital relationships, it is likely that individuals will be more likely to offer support to people with whom they have close relationships.

THE PRESENT STUDY

This study builds upon the research cited above, which has considered the role of the presence of other bystanders and diffusion of responsibility in bystander behavior, the effects of depersonalization, and relational status and quality on bystander intervention and support behaviors. Each of these factors is suggested to play a role in the behavior of

bystanders to a cyberbullying incident. The following sections briefly review the relevant research before proposing a series of hypotheses.

The presence of other bystanders. The diffusion of responsibility effect (Darley & Latané, 1968a; Latané & Nida, 1981), described above, suggests that witnesses to cyberbullying should be less likely to act in a prosocial manner when other bystanders are present.

Although initial research into the diffusion effect dealt with offline emergency situations (Darley & Latané, 1968a), similar effects have recently been observed online, in message board requests to strangers (Markey, 2000) and email requests from a university colleague (Blair et al., 2005). Also, research has shown that the diffusion of responsibility effect is likely stronger in situations where there is low potential for immediate danger to the victim (Fisher et al., 2006). The threat of immediate danger is often lower online, since the interactants are usually not physically collocated. Hence, the diffusion of responsibility effect should play a role in online cyberbullying incidents.

Although research on bullying has implied a diffusion of responsibility effect, to this author's knowledge no research has directly investigated the effect in a bullying context. As O'Connell et al. (1999) note, in bullying episodes, "…peers are frequently present and may diffuse responsibility, thereby reducing the impetus to intervene" (p. 439). This claim is especially relevant in online environments, where the number of bystanders is potentially much higher than in traditional bullying incidents.

A bystander to a cyberbullying episode can undertake several potential actions, such as providing support directly to the victim (Matsunaga, 2010), actively defending

the victim by responding directly to the bully (Hawkins et al., 2001; Pozzoli & Gini, 2010; Salmivalli et al., 1995), or simply standing by, acting as a passive bystander. The diffusion of responsibility effect suggests either an increase or decrease in certain behaviors, based on the perceived number of bystanders:

H1a: The perceived number of bystanders to a bullying episode will be negatively related to the bystander's active defending behavior

H1b: The perceived number of bystanders to a bullying episode will be positively related to the bystander's passive observing behavior.

H1c: The perceived number of bystanders to a bullying episode will be negatively related to the bystander's support behavior.

Depersonalization. Cues-filtered-out perspectives of CMC argue that the depersonalization associated with the lack of cues in online environments can lead to antinormative behavior (e.g., Kiesler, Siegel, & McGuire, 1984). Deindividuation and depersonalization have traditionally been related to more disinhibited online behavior, including hostile communication towards others (e.g., Douglas & McGarty, 2001; Douglas, 2008). Relating more specifically to depersonalization, recent research found that more depersonalized online communication environments are perceived as having a more negative atmosphere, and a lack of eye contact between communicators (conceptually similar to the form of depersonalization offered by Schwartz & Gottlieb, 1981) was associated with more flaming behavior (Lapidot-Lefler & Barak, 2010).

Although depersonalization in the online environment has been found to relate to hostile communication, fewer studies have examined the relationship between

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depersonalization and bystander/helping behavior. In one study of FtF behavior, individuals who perceived themselves to be anonymous were less likely to offer helping behavior in emergency situations (Solomon, Solomon, & Maiorca, 1981). Thus, in an online environment, individuals may be less likely to offer assistance or support when they perceive themselves to be depersonalized.

H2a: Perceived depersonalization will be negatively related to the bystander's active defending behavior

H2b: Perceived depersonalization will be positively related to the bystander's passive observing behavior.

H2c: Perceived depersonalization will be negatively related to the bystander's support behavior.

Other research shows that the diffusion of responsibility effect can operate differently based the perceived anonymity of the bystander (Schwartz & Gottlieb, 1980). Hence, the above hypotheses need to also be examined alongside the potential moderating variable of whether or not the bystander is identifiable to other participants in the bullying incident, such as the bully, victim, and other bystanders.

Since online environments often include pictures and detailed identifying information about users, traditional CMC theories, such as SIDE, cannot be easily extended to understand behavior in cyberbullying episodes. The classic definition of deindividuation used by SIDE relates to visual anonymity. However, in many online contexts, the bystander's *identity* is not visually anonymous. For example, social networking sites often include pictures and other personal information about participants

(Walther, 2011). In instant messaging, text messaging, and email, people are often aware of who they are communicating with. Due to the lack of visual anonymity in many modern online environments, the definition implemented by Schwartz and Gottlieb (1981), operationalized as whether or not bystanders believe themselves to be visible, is predicted to moderate the diffusion of responsibility effect. The inability to tell who else is online most likely plays a role when explaining and predicting online behavior. Ultimately, this work suggests that the diffusion effect predicted in H1 should be especially strong when a bystander perceives him or herself as not visible to either the victim or the other bystanders:

H3a: The relationship between number of bystanders and active defending behavior will be moderated by perceived depersonalization, such that individuals who perceive themselves as not visible during the bullying episode will be less likely to defend the victim when in the presence of other bystanders than individuals who perceive themselves as visible.

H3b: The relationship between number of bystanders and passive observing will be moderated by perceived depersonalization, such that individuals who perceive themselves as not visible during the bullying episode will be more likely to passively observe when in the presence of other bystanders than individuals who perceive themselves as visible.

H3c: The relationship between number of bystanders and support behavior will be moderated by perceived depersonalization, such that individuals who perceive themselves as not visible during the bullying episode will be less likely to offer

support when in the presence of other bystanders than individuals who perceive themselves as visible.

Relationships. In traditional bullying episodes, 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 part of their "in-group" rather than an "out-group" (Levine et al., 2002), and most helping behavior occurs between friends or family members (Amato, 1990). Moreover, the social support research suggests that individuals are more likely to offer help to those with whom they have a satisfying relationship (Hobfoll & Lerman, 1989). Thus, it is important to consider the influence of relational closeness on bystander behavior, especially as individuals continue to interact online with friends, family members, and acquaintances from their offline world (e.g., Lampe et al., 2007).

Because much research on depersonalization and the diffusion of responsibility effect has been conducted using experimental studies with participants who have not met each other, the influence of closeness on both depersonalization and the number of bystanders is unclear. Hence, the present study offers a series of linear predictions relating to the dependent variables:

H4a: The reported closeness between a bystander and a victim will be positively related to bystander active defending behavior.

H4b: The reported closeness between a bystander and a victim will be negatively related to bystander passive observing behavior.

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H4c: The reported closeness between a bystander and a victim will be positively

related to bystander support behavior.

Types of cyberbullying incidents. Although research has revealed information about the prevalence of cyberbullying, few studies have examined basic information about the types of cyberbullying which occur (Tokunaga, 2010), particularly amongst college students (Kowalski et al., 2012). In line with the call for more descriptive research into online behavior and communication (Parks, 2009), the present study also investigates the types of cyberbullying incidents that occur in a college-aged sample. Within the domain of cyberbullying, more descriptive research will allow educators and intervention specialists to understand what type of behaviors might occur.

RQ: What are the behaviors that individuals see as constituting a cyberbullying

episode?

Chapter 3: Study 1

METHOD

Two separate but related studies investigated the hypotheses. Study 1 utilized a retrospective self-report methodology. Participants recalled two past experiences in which they witnessed a cyberbullying incident – one in which they intervened in some way, and one in which they did not intervene – and then described the incident. After responding to the open-ended items, participants completed a series of measures (described below) relating to the IVs and DVs under investigation as well as several control measures.

Participants. Data were collected from 265 undergraduate students enrolled in communication courses at a large southwestern university. A majority of the sample was female ($n = 199$, 75.1%). Participants' ages ranged from 18 to 42 ($M = 20.2$; $SD = 1.97$). Most of the participants 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%) ethnic origin. Respondents were offered course extra credit for their participation, and were told that their participation in the study was completely voluntary and that alternative opportunities for extra credit were available for those who cannot or do not want to participate. One participant indicated that they responded incorrectly (i.e., they recalled two event in which they responded), so their data was removed.

Procedure. Study 1 utilized a retrospective self-report methodology, which has been employed in previous research into bullying (Rivers, 2001), bystander intervention

in bullying (Oh & Hazler, 2009), and feelings of hurt (e.g., Vangelisti, Young, Carpenter-Theune, & Alexander, 2005). The validity of this recall approach is supported by research which shows that recall of past events remains relatively stable over time (Baddley, 1990; Ross & Conway, 1986).

Participants completed an online survey. Similar to the studies cited above (e.g., Oh & Hazler, 2009; Rivers, 2001; Vangelisti et al., 2005), participants were offered a brief definition of cyberbullying (described below) and asked to recall two experiences in which someone they know was targeted on Facebook.

Participants were limited to recalling experiences events that occurred on Facebook. This methodological choice was made for several reasons. First, the design differences of different technologies (e.g., Facebook and text messaging) might limit the ability to draw broader conclusions about cyberbullying without considering these confounding factors, which are outside the purview of the present study. Also, the IVs in the study (number of bystanders, depersonalization, and friendship with the victim) are not always applicable in other environments. For example, there are not likely to be bystanders or witnesses to a private text messaging conversation. Additionally, Facebook is the most widely used online social network. As of December 2012, over one billion people worldwide have a profile and access the site at least once a month (www.facebook.com). Hence, using Facebook as the context for this study is likely to result in the broadest applicability of the results.

To account for the possibility of selection bias (i.e., only people who had intervened in a past cyberbullying incident would participate in the study), participants

were asked to recall two experiences – one instance in which they said or did something to the victim and/or perpetrator at some point after the event occurred, and one instance in which they did not say or do anything to the victim and/or perpetrator at any point after the event occurred. The present study is primarily concerned with predicting bystander intervention. Hence, the second prompt (in which the participant did not intervene) was primarily used as a methodological technique in order to avoid selection bias. Data from the first prompt (in which the participant intervened) was used for the hypothesis tests. However, the Results section also includes several comparisons between the data from the two prompts as both a within-subjects preview of the hypotheses and a manipulation check. For the manipulation check, participants were expected to indicate higher levels of active defending and social support, and lower levels of passive observing, when reporting on an event in which they intervened as compared to the incident in which they did not intervene. As a preview of the hypotheses, participants were expected to report fewer bystanders, a lower level of depersonalization, and a closer relationship with the victim when reporting on the incident in which they did intervene as compared to the event in which they did not intervene.

Participants were allowed to skip a section if they could not recall an event that fit the criteria. The order of the prompts was counterbalanced to account for potential order effects. Participants were presented with a definition which was slightly modified from the version offered by Baldasare et al. (2012) and instructions for completing the survey. Participants were told:

Individuals often use technology in a way that is perceived as aggressive or threatening to another person. Please recall an event which occurred in the past two years in which someone you know was targeted by such hurtful online messages or actions ON FACEBOOK. This event should be a time in which you either witnessed the hurtful event or were aware of the hurtful event soon after it occurred, AND YOU DID NOT SAY OR DO anything to the victim or perpetrator at any point after the event occurred (incident 1) OR YOU SAID OR DID something to the victim and/or perpetrator at some point after the event occurred (incident 2). Please recall an event that meets the above criteria.

Similar to Vangelisti et al. (2005), participants were asked to describe the event in several formats. First participants were told to describe the event in as much detail as possible. Participants were then asked what happened that led up to the hurtful online messages or actions. They then described what they said or did following the incident. Finally, participants described the event in a script-like format (e.g "She said…"; "They said…."). The responses provided insight into the nature and types of cyberbullying incidents, and allowed for the creation of exemplars for the second study, which uses vignettes of bullying incidents as part of an experimental design.

After describing the bullying episodes, participants completed several additional measures. Potential control variables included their experience with cyberbullying and electronic devices, their closeness with the perpetrator, and the perceived hurtfulness of the incident. Independent variables related specifically to the bullying episode, including the perceived number of bystanders, perceptions of depersonalization, and their

relationship with both the victim and the perpetrator. Dependent variables included the three possible reactions to the bullying episode: active defending, passive observing, and social support to the victim. Each of these measures is described in more detail below. Means, standard deviations, and Chronbach's alpha reliability scores for all independent and dependent variables are presented in Table 1.

Independent variables. The following sections describe the measures used as independent variables in Study 1. Each of these variables was measured twice: once for the event in which the participant did respond, and once for the event in which the participant did not respond.

Presence of additional bystanders. Because this study is based on a recalled event, participants were asked to recall the perceived number of additional people who witnessed or viewed the bullying episode. Most previous work on the diffusion of responsibility effect has relied on an experimental manipulation of the number of bystanders as part of a hypothetical scenario or contrived emergency situation (e.g., Darley & Latané, 1968a). The studies which have examined recalled experiences as a bystander have used a variety of questions to examine the presence or absence of other bystanders. Hence, the present study utilized three questions to investigate the number of bystanders. First, similar to Oh and Hazler (2009), participants were asked to indicate whether other individuals also observed or were aware of the bullying episode (1 = yes, 2 = no). Then, 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 zero to 2,000.

Anonymity/Depersonalization. Depersonalization and identifiability have been operationalized in myriad ways. In early studies of CMC, deindividuation was often manipulated experimentally by considering whether or not individuals communicating over a computer network were visually identifiable to each other (e.g., in the same room) or visually anonymous (e.g., in separate rooms) (Spears, Lea, & Lee, 1990), or whether they attached an alias to their email address (Douglas & McCarty, 2001). Other studies have measured perceived anonymity, but operationalized the variable based on whether or not a blogger used a real name or pseudonym online (Qian & Scott, 2007). However, the operationalizations described above should not be extended to the present study because individuals are rarely fully anonymous online. Photos and identifying information are easily available in many online contexts, particularly Facebook.

As mentioned in the rationale, the present study examines what Walther (2011) labels depersonalization, or whether bystanders who believed that the victim knows of their presence. Several items were created specifically for this study (Appendix A). Participants rated their agreement with the items on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*). Scores were reversed so that higher scores reflect higher levels of perceived depersonalization.

Relationship/closeness with the bully/victim. Participants completed a slightly adapted version of Vangelisti and Caughlin (1997) psychological closeness measure. The

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items were reworded to reflect all relationship types, rather than just romantic relationships (Appendix A).

Dependent variables. The following sections describe the measures used as dependent variables in Study 1.

Bystander behavior. Bystander behavior was measured with an adapted version of the Participant Role Questionnaire (PRQ) (Salmivalli & Voeten, 2004; Appendix A). 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.

Social support. Because the PRQ does not fully capture the range of possible social support behaviors, the present study will utilize the emotional, esteem, and network support components of Xu and Burleson's (2001) typology. These components have previously been used in other studies of bullying behavior (e.g., Matsunaga, 2010), Items were slightly adapted to address non-marital relationship types, and reworded to indicate provided support rather than received support (Appendix A).

Control variables and demographic variables. The following sections describe the measures used as control and demographic variables in Study 1.

Personal experience with cyberbullying. As a control variable, participants completed an altered version of the 23-item Electronic Bullying Questionnaire (Kowalski

& Limber, 2007), which was originally adapted from the 39-item Bully/Victim Questionnaire (Olweus, 1996). The measure includes items relating to the participants' past experiences with bullying – both as a victim and a perpetrator. The measure included several items relating to the medium used by the bully (e.g., e-mail, SNSs, text messages, instant messaging, etc.). Wording that referred to "bullying" was changed to refer to an "incident," and "bully" was changed to "perpetrator." The full list of items and measures appears in Appendix A. Participants indicated the responses on a 5-point Likert scale (1 = not at all; 5 = several times a week). The mean of the first ten items relating to participants' personal experience with cyber bullying was calculated ($M = 1.29$, $SD = .50$, $\alpha = .89$).

   Degree of hurt. The perceived severity/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 also assess the severity of the incident (Appendix A). Although the scale usually refers to the self-report degree of hurt experienced by the participants, in this study individuals were asked to evaluate the degree of hurt from the perspective of the victim. The mean of the five items was calculated and used as a control variable ($M = 5.15$, $SD = 1.38$, $\alpha = .93$).

   Other variables. Participants also answered a series of items relating to personal responsibility for helping the victim, the intentionality of the act, and their experience with a variety of communication technologies. Each of these variables will be reported on in future studies.

RESULTS

  This study examined predictors of bystander intervention in recalled experiences of cyberbullying incidents. The following section outlines the results for the preliminary analyses and the hypothesis tests.

  Manipulation check and preview of hypothesis tests. As described in the Methods section, participants reported on two events in order to account for potential selection bias. Respondents described one instance in which they said or did something to either the perpetrator or victim following the event, and one event in which they did not say or do anything. The central hypotheses of the present study are concerned with understanding the predictors of instances in which a bystander does intervene. Thus, the hypotheses were tested using the data from the section of the survey in which participants reported on incidents in which they said or did something following the incident.

  Prior to testing the hypotheses, several analyses were conducted as both a manipulation check and preview of the data. Specifically, the manipulation check tested whether the participants reported offering more social support, a higher level of active defending, and a lower level of passive observing when reporting on an incident in which they did intervene as compared to the incident in which they did not intervene. Additionally, based on the hypotheses, participants were expected to report more bystanders, a higher level of depersonalization, and a lower level of closeness for incidents in which the participants did not intervene as compared to incidents in which they did intervene.

  To reduce the incidence of type I error inherent in multiple tests, the manipulation and preview hypothesis tests were analyzed with a one-way, repeated measures

multivariate analysis of variance (MANOVA) with incident type (intervened, did not intervene) as the within-subjects factor. The dependent variables were the number of bystanders, depersonalization, closeness with the victim, the active defender and passive observer subscales of the PRQ and the esteem, emotional, and network support subscales of the Xu and Burleson (2001) social support measure.

Box's M test was not necessary, since the test did not include any between-subjects factors (Tabachnick & Fidell, 2007). Additionally, Mauchly's test of sphericity was not necessary since there were only two levels of the within-subjects variable (Tabachnick & Fidell, 2007).

The MANOVA was significant for incident type, Wilks' $\Lambda = .7$, $F(8, 228) = 19.33$, $p < .001$, partial $\eta^2 = .40$. Since the MANOVA produced a significant multivariate effect, the univariate effects could be analyzed. Table 1 displays the results of the one-way ANOVAs.

As expected, when reporting on an incident in which they did intervene, individuals reported higher scores on the active defender subscale and all three measures of social support (e.g., esteem, emotional, and network), and lower scores on the passive observer subscale. These results suggest a successful manipulation. When participants were reporting on an event in which they did intervene, they indicated higher levels of active defending and social support, and a lower level of passive observing. Also, when reporting on an incident in which they did intervene, individuals indicated a lower level of depersonalization, a closer relationship with the victim, and fewer bystanders than when reporting on an incident in which they did not intervene. These results suggest

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tentative support for several of the hypotheses. A more direct test of the hypotheses is reported below.

Hypothesis tests. Hypotheses 1-4 were tested with a series of hierarchical regression analyses, which allowed for the analysis of both linear predictions and interaction effects (Aiken & West, 1991). Because there are three dependent variables associated with each hypothesis, but the DVs are the same across hypotheses, the analysis employed five separate hierarchical regressions, one for each dependent variable (i.e., active defending, passive observing, emotional, esteem, and network support) in order to lower the increased type I error rate associated with multiple tests. The collinearity diagnostics—both the Tolerance (TOL) and Variance Inflation Factory (VIF) tests— showed acceptable collinearity between the predictor variables for all five regressions. Table 2 displays the correlations between the study variables. An examination of the skewness of each independent and dependent variable revealed that the number of bystanders variable was positively skewed. Thus, the analyses were conducted using a square root transformation of the variable. However, the significance values for the betas and the total, adjusted, an ΔR^2 scores did not differ between the analyses using the transformed variable and the raw variable. According to Tabachnick and Fidell (2006), using transformed variables is not always recommended, since "the transformed variables are sometimes harder to interpret" (p. 86). Indeed, interpreting the unstandardized B of the transformed version of the number of bystanders variable is not intuitive. Thus, since the results of the statistical tests did not change with the use of the transformed variable, all results are reported using the raw (untransformed) variable.

Effect of independent variables on active defending. Hypotheses 1a, 2a, and 4a predicted a relationship between the number of bystanders, perceived depersonalization, and relationship with the victim on active defending behavior. Hypothesis 3a predicted an interaction effect between number of bystanders and perceived depersonalization. Active defending was operationalized using the Defender subscale of the participant role questionnaire (Salmivalli & Voeten, 2004).

Hypotheses were tested using hierarchical multiple regression. There was a significant, positive correlation between degree of hurt and active defending behavior (Table 2). Thus, degree of hurt was entered in the first block as a control variable. The second block included the variables indicating the number of bystanders (H1a), perceived depersonalization (H2a), and the degree of closeness (H4a) between the participant and the victim. The variables were entered to account for multicollinearity and for consistency with the required procedures for testing interaction effects with regression (Aiken & West, 1991; Tabachnick & Fidell, 2007). The final block included the interaction term, which was created by multiplying the centered number of bystanders variable with the centered depersonalization variable (H3a). The results were analyzed with a hierarchical regression with active defending as the criterion variable. Table 3 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 depersonalization (H2a) were negatively related to active defending behavior. Closeness with the victim (H4a) was positively related to active defending behavior.

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However, contrary to one of the four predictions, the interaction between the number of bystanders and perceived depersonalization (H3a) did not significantly relate to active defending.

Effect of independent variables on passive observing. Hypotheses 1b, 2b, and 4b predicted a relationship between the number of bystanders, perceived depersonalization, and relationship with the victim on passive observing behavior. Hypothesis 3b predicted an interaction effect between number of bystanders and perceived depersonalization. Passive observing was operationalized using the Outsider subscale of the participant role questionnaire (Salmivalli & Voeten, 2004).

Once again, these hypotheses were tested using hierarchical multiple regression. None of the potential control variables were significantly correlated with the DVs, so the first block included the variables indicating the number of bystanders (H1b), perceived depersonalization (H2b), and the 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 bystander variable with the centered depersonalization variable (H3b). The results were analyzed with a hierarchical regression with passive observing as the criterion variable. Table 4 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 depersonalization (H2b) were positively related to passive observing behavior. Closeness with the victim (H4b) negatively related to passive observing behavior.

However, contrary to hypothesis H3b, the interaction between the number of bystanders and perceived depersonalization did not significantly relate to passive observing.

Effect of independent variables on social support. Hypotheses 1c, 2c, and 4c posited a relationship between the number of bystanders, perceived depersonalization, and relationship with the victim on social support. Hypothesis 3c predicted an interaction effect between number of bystanders and perceived depersonalization. Consistent with previous research on the role of social support in bullying episodes (Matsunaga, 2011), three types of support were measured: esteem support, emotional support, and network support (Xu & Burleson, 2001). Thus, three separate regressions were conducted to examine the effects of the independent variables on the dependent variables.

The hypotheses were tested using three hierarchical multiple regressions. Because they were significantly (or near-significantly) associated with the DVs (see Table 2), a dummy-coded variable (1 = male, 0 = female) representing participant sex, the participant's closeness level with the bully, and the degree of hurt were entered in the first block as control variables. The cyberbullying experience variable was not significantly related with the outcomes, so it was not included as a control variable. The second block included the variables indicating the number of bystanders (H1c), perceived depersonalization (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 depersonalization variable (H3c). The results were analyzed with three hierarchical regression analyses—one with esteem support as the criterion variable, one with

emotional support as the criterion variable, and one with network support as the criterion variable. Table 6 displays 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 depersonalization (H2c) was negatively related to emotional, esteem, and network support, and closeness with the victim (H4c) was positively related to emotional, esteem, and network support. Perceived number of bystanders (H1c) did not significantly relate to emotional or esteem support. Also contrary to hypothesis H1c, perceived number of bystanders positively related to network support. In other words, perceiving more bystanders to be present was related to a higher likelihood of offering network support. The interaction between the number of bystanders and perceived depersonalization (H3c) did not significantly relate to social support behaviors.

Thematic analysis of open-ended responses. Research Question 1 asked what types of cyberbullying incidents victims report. The research question was addressed via an inductive analysis of the open-ended descriptions of cyberbullying (Bulmer, 1979). The lead author and a trained coder read the open-ended responses and independently generated a list of "types" of Facebook cyberbullying situations. After reading through the scenarios, the coders met and assessed the similarities between their lists. Similar categories were combined and re-labeled. After examining the themes, the lead author and coder determined that the cyberbullying examples could be categorized, and subsequently coded, in several ways. Many of the reported incidents included information about the strategy used by the perpetrator as well as the content of the hurtful

messages or behaviors associated with the incident. Therefore, the themes were separated into cyberbullying "strategies" and "topics." The list of themes was refined and exemplars were chosen (Tables 6 and 7).

Two independent, trained coders read through a randomly selected subset of 10% of the open-ended data and assigned a code to each response. Each coder assessed the responses and coded them with regards to both the strategy used by the perpetrator and the content of the hurtful message/behavior. Reliability between the coders was assessed using Cohen's Kappa because it accounts for chance agreement. For the cyberbullying strategies, reliability between the coders was moderate ($\kappa = .68$). For the topics, reliability was also moderate ($\kappa = .67$). After examining the codes and the responses, the author and the coders agreed that higher agreement could be achieved with the addition of several categories and further training. A "video" category, which refers to the use of video clips as a bullying tactic, was added to the strategy coding scheme. Two topic categories were also added. A "friendship" topic was added for instances in which a hurtful incident related to disagreements or hurtful issues within a friendship. Also, a "skills/talents" topic was added for instances in which a victim was targeted based on a perceived lack of talent or intelligence. The coders analyzed an additional, random 10% of the open-ended responses. Reliability was higher for the strategies ($\kappa = .76$) and topics ($\kappa = .73$), indicating substantial agreement (Landis & Koch, 1977). The coders and the author met to resolve disagreements, and the remaining data were divided evenly between the coders.

The results of the coding appear in Table 6 (strategies) and Table 7 (topics), and include frequencies for both the event in which participants reported intervening and the incident in which they did not intervene. Neither the percentage of reported strategies, χ^2 (156, $N = 230$) = 178.10, $p > .05$, nor the percentage of reported topics, χ^2 (169, $N = 230$) = 181.10, $p > .05$, differed based on the type of event (whether the bystander intervened or did not intervene).

Public comment, in which individuals posted a comment or message on Facebook that was publicly viewable, was the most reported strategy. *Private comment*, in which individuals were targeted via private messages or chats, was the second most reported strategy, followed by the *photograph* strategy, in which individuals were harassed via the use of pictures, many of which were photos of the victim in embarrassing or compromising situations.

The most prevalent cyberbullying topic involved *romantic relationships*, in which individuals were targeted based on issues associated with their romantic relationships (e.g., breakups, cheating, and fights). *Friendship*-related incidents, in which the cyberbullying event was due to issues with friends and roommates, was the second most reported strategy. Other incidents related to *sexual activity* (e.g., nude photos or being called a "slut"), *skills and talents* (e.g., insulting their intelligence or artistic skills), *weight,* and *personal appearance* (e.g., being called "ugly"). The following section reviews the implications of these results and provides a rationale for Study 2.

DISCUSSION

Bystanders to cyberbullying incidents have the ability to attenuate the social and mental anguish of victims (e.g. Hawkins et al., 2001; Matsunaga, 2010; Salmivalli et al., 1995). Observers can act to immediately 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 bystander intervention in this context. The results of the first study suggest that the number of bystanders present during the incident, the bystander's perceived sense of depersonalization, and the relationship between the bystander and the victim each predict bystander behavior to varying degrees. Additionally, the first study sheds light on the types of cyberbullying incidents experienced and observed by college students.

Number of bystanders. Consistent with research into the diffusion of responsibility, 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 associated with participants being more likely to passively observe the incident. Although researchers have suggested that bystanders to bullying episodes may lessen the likelihood of bystander intervention (e.g., O'Connell et al., 1999; Salmivalli, 2010), no studies have directly investigated this prediction in the bullying or cyberbullying context. The results of Study 1 provide tentative support for the effect in cyberbullying episodes. Additionally, most research into the diffusion of responsibility effect (e.g., Darley & Latané, 1968a) was conducted in a tightly controlled, experimental context. The present results extend that research into an ecologically valid setting, in which participants recalled actual past experiences with cyberbullying incidents.

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However, the number of bystanders did not relate to social support behavior. Rather, depersonalization and closeness with the victim were significantly related to social support behavior. Previous research into the diffusion of responsibility effect has not investigated social support as a dependent variable, so perhaps the theory does not extend into contexts in which social support is a viable option. Indeed, as mentioned above, much of the research supporting the diffusion of responsibility effect was conducted using experimental (rather than recall) methods (Levine & Crowther, 2008). One consequence of this methodological choice is that social support behaviors, which are often reserved for friends, family members, and romantic partners (rather than strangers) were outside of the purview of that research. The results of the present study suggest that increasing the number of bystanders does not reduce the likelihood of participants offering social support to victims. Rather, closeness to the victim and depersonalization predict emotional, esteem, and network-related social support.

Depersonalization. As predicted, perceived depersonalization was positively related to passive observing behavior and negatively associated with social support and active defending behavior. However, depersonalization did not moderate the effect of the number of bystanders on any of the dependent variables. Rather, it had a direct effect, regardless of how many bystanders were present. This finding is not consistent with 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 to be visible to the perpetrator or victim. However, the methodology of the present study differed in two ways – the number of observers was not tightly controlled,

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and the bystander was usually well-acquainted with the victim. In the Schwartz and Gottlieb experiment, there were either one or zero bystanders. However, in online environments such as Facebook, there are almost always at least several other bystanders. In the present study, only 5.9% of participants indicated that no additional bystanders were present, and a post-hoc test indicated that depersonalization was not moderated by a dummy-coded variable representing whether there were zero or more than zero witnesses. The second study (described below) partially reconciles this methodological difference by more tightly controlling the number of bystanders.

Additionally, the Schwartz and Gottlieb (1980) experiment investigated bystander intervention in a context in which the victim and the bystander were strangers. In the present study, there was not a three-way interaction between the IVs, which could have revealed that lower levels of closeness with the victim moderated the effect of the number of bystanders and depersonalization. However, very few participants (17.8%) indicated that the victim was a stranger or acquaintance, so there may have not been enough statistical power to identify such an effect. In Study 2, the closeness with the victim is manipulated (good friend vs. acquaintance), so more participants will report on their bystander behavior in a context that is conceptually similar to previous research in which the victim is not a close friend with the bystander.

Overall, the results of the first study are consistent with prior research on anonymity and deindividuation, which argues that decreased self-awareness allows for fewer adherences to societal standards, and thus results in anti-normative behavior, both in-person (Zimbardo, 1969) and online (e.g., Sproull & Kiesler, 1986). The present study

differs from these studies, and studies of the SIDE model which study deindividuation

(e.g., Lea & Spears, 1992) in that, due to the structural characteristics of Facebook and in

an effort to mirror the work of Schwartz and Gottlieb (1980), anonymity was

operationalized as depersonalization. On Facebook, individuals usually have pictures and

other personal, identifying information, which were often not available in more

traditional "anonymous" CMC environments (Walther, 2011). Rather, in line with the

operationalization used by Schwartz and Gottlieb, the present study examined whether

participants believed themselves to be visible to others. Also, research suggests that the

extent to which individuals believe themselves to be visible to other online

communicators (sometimes labeled as invisibility) can lead to antinormative behavior

(Lapidot-Lefler & Barak, 2012). Although active defending and social support are

prosocial behaviors, the lack of intervention behavior (passive observing) could be

labeled as anti-normative, in that the bystander is choosing not to act to help a victim.

Consider that social isolation can exacerbate the negative social and emotional effects of

cyberbullying (Kowalski, 2007; Newman et al., 2005). Additionally, a study of

secondary-school children found that passively observing a bullying episode was

described by participants as a negative, hurtful behavior. The results of Study 1

demonstrated that depersonalization positively related to passive observing behavior, a

potentially hurtful behavior which has the potential to exacerbate the deleterious effects

of the bullying episode.

Relating to the effects of depersonalization on prosocial behavior, one study

found that visual anonymity (but not discursive anonymity) was negatively associated

with self-disclosure by bloggers (Hollenbaugh & Everett, 2013). This finding countered previous research, which examined anonymity more holistically. Visual anonymity refers to the ability for online communicators to see or be aware of the presence of an individual. Discursive anonymity is defined by not knowing an individual's offline identity, which, as mentioned above, is not a common occurrence on SNSs such as Facebook. The results of the present study show that depersonalization (which is conceptually similar to visual anonymity) was negatively associated with the enactment of social support or active defending behaviors. However, the operationalization of depersonalization used in Study 1 was perceptual (rather than structural). In other words, individuals reported on their perceptions of whether or not they were visually identifiable, rather than whether there was some structural queue (such as a picture or an indicator that they are "online"). The second study attempts to reconcile this issue by manipulating whether or not the participant is "logged in" to the Facebook chat feature.

Relationship with the victim. As expected, closeness with the victim was associated with more social support and active defending, and a lower likelihood of passively observing the cyberbullying episode. This finding extends previous research into helping behavior (e.g., Darley & Latané, 1968b; 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 (Lampe et al., 2007).

Types of cyberbullying incidents. Research Question 1 was advanced for two purposes. First, the responses to the open-ended prompts in Study 1 were used to design a realistic scenario for Study 2. Additionally, little research has examined the types of cyberbullying incidents that occur, particularly amongst college students (Kowalski et al., 2012). Moreover, researchers have called for more descriptive research into online behavior and interactions (Parks, 2009). The thematic analysis of the cyberbullying incidents provides such descriptive data that can be used in future research. The inductive analysis and subsequent coding procedure revealed that cyberbullying incidents tend to be characterized by both the strategy used by the perpetrator and the topic of the incident.

The most frequently reported strategies were public comments and private comments. This finding is not overly surprising, since these two activities, constitute two of the most frequently reported activities of Facebook users in general (Hampton, Goulet, Rainie, & Purcell, 2011). Other common Facebook activities include posting status updates and photos (Hampton et al.), each of which were also reported as among the more frequently used strategies in the present study. These results indicate that most bullying on Facebook occurs via some of the more basic, standard features of the site.

Another salient feature of the cyberbullying strategies in the present study is that (other than private comments) the actions/messages are semi-public and viewable by the victim's online social network. The public nature of cyberbullying has several implications. First, individuals often form impressions based on the social networking

comments of a profile owner's friends more than the profile owner him or herself (Walther, Van Der Heide, Hamel, Shulman, 2009). In other words, the hurtful and often public comments and photographs which constitute cyberbullying are likely to strongly influence other bystanders' perceptions of the cyberbullying victim. Moreover, research also shows a negativity effect in online impression formation, such that negative comments are often weighed more heavily when forming impressions (Kellerman, 1989; Walther et al., 2009). Overall, these results suggest that the public nature of the cyberbullying incidents may have sizeable implications for the identity of the victim.

Other strategies included hacking/identity theft, creating fake profiles, and creating online "burn books." Some of these strategies, such as hacking, mirror previous research into cyberbullying amongst high school students (Vandebosch & Van Cleemput, 2008). Other strategies, such as creating fake profiles, are related more closely to early research on anonymity which focused on the lack of cues to a communicator's identity in an online context. In these studies, online anonymity was often found to lead to more hostile behavior (e.g., Douglas, 2008; Douglas & McCarty, 2001). Although maintaining anonymity on Facebook is difficult due to the identifying information (individuals use their real names, and photos are available), some perpetrators in the current study took control of someone else's account, or created a fake profile. Each of these activities are violations of the Facebook terms of service (https://www.facebook.com/legal/terms), but it is unclear whether the site's rules affect perpetrators' use of the features.

The online burn book category included situations in which the perpetrator(s) would create a Facebook group or fan page with the intention of using the page to target

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the victim via the posting of photos, messages, videos, and other hurtful content. The victim often does not know the content has been posted. Rather, perpetrators create the page so their peers can comment and elaborate on the content, often without the knowledge of the victim. In the present study, the online burn books, also known as "bash books" or "slam pages," were created using features of Facebook – such as fan pages or public/private groups – and were designed to target a specific victim or a group of victims. Evidence of similar sites outside of Facebook has been noted (Kowalski et al., 2012). Although these sites are often swiftly shut down (Kowlaksi et al.), the public nature of the burn book, as well as the fact that information on the page can be accessed and viewed without the victim's knowledge, have the potential to exacerbate the negative effects of online bullying incidents.

The current study's open-ended responses included a range of cyberbullying topics, as well. Overall, the types of cyberbullying topics somewhat overlapped with previous research into the topics of hurtful messages. For example, in a study of messages that resulted in hurt feelings, Vangelisti (1994) found evidence for nine hurtful message topics, including romantic relations, nonromantic relations, sexual behavior, physical appearance, abilities/intelligence, and ethnicities/religion. Although the proportions of topics differed in the present study, evidence was found for each of these topics in online cyberbullying incidents, as well as a few additional topics.

The most frequently reported topic concerned romantic relationships. Individuals were often targeted due to a recently dissolved romantic relationship or due to conflict within a relationship. One recent study found that as many as 91% of cyberbullying

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incidents in late high school stemmed from relationship problems (Hoff & Mitchell,

2009). The present study revealed a slightly lower percentage, although several other

categories included examples which may have initially stemmed from a relational

breakup. Recently, researchers have called for more investigation into the relational

development process online, particularly on SNSs (Walther, 2011). Recent research has

investigated the role of SNSs in the relational development process and found that

Facebook was primarily used as a method for uncertainty reduction early in relationships

(Fox, Warber, Makstaller, 2013). As relationships dissolve, individuals may also use

Facebook to strategically navigate the breakup process. Unfortunately, that may result in

the use of technology to target ex-partners. Individuals who report undertaking Facebook

behaviors associated with relationship dissolution were less adjusted to the breakup than

individuals who did not report Facebook-related behaviors during their breakup

(LeFebvre, Blackburn, & Brody, 2012), and the surveillance of an ex-partner's SNS

profile inhibits personal growth following a breakup (Marshall, 2012). These studies

relate to the potentially deleterious effects of continued access to information about an

ex-partner's' life and daily activities following a breakup. The results of the present study

indicate that breakups often extend into the online realm, and may result in behaviors that

may be categorized as cyberbullying.

Individuals also reported witnessing cyberbullying incidents associated with

issues and problems in friendships. Recently, some researchers have focused on the rules

of friendships in online environments such as Facebook (Bryant & Marmo, 2011). One

rule – negative friendship consequences – focused on how an individual's behavior on

Facebook may negatively affect their friend or their friendship. Moreover, participants reported that this rule is especially important in close friendships. The present study provides further insight into this research, as cyberbullying involving friendship is one example of the "breaking" of this friendship rule. Additionally, Marwick and boyd (2011) argue that most teens and young adults conceptualize cyberbullying as "drama." Drama often occurs between friends for a variety of reasons, and commonly boils over into the online context.

Another commonly reported topic of cyberbullying related to sexual topics. This category parallels much public attention on the sexualized nature of cyberbullying, which often has drastic consequences. For example, a young woman in Steubenville, Ohio was sexually assaulted by several of her high school classmates, and pictures of the incident were posted online via SNSs and distributed via text messages (Macur & Schweber, 2012). Some research has recently explored the prevalence of and predictors of sexting, or engaging in computer-mediated sexual communication, which can include the sending of pictures, videos, or text-only messages of a sexual nature (Drouin, Vogel, Surbey, & Stills, 2013). Although few individuals report sending sexual pictures or videos via Facebook (Drouin et al.), pictures and videos sent via text message can easily be uploaded from a phone onto SNSs. Indeed, of the individuals who reported that their casual sexual partner had taken a nude or semi-nude photo of them, 53% of participants in the Drouin et al. study feared that the photos would be forwarded, and 15% of participants reported that photos of them had been forwarded in the past. As the pictures are forwarded, the likelihood that they are shared with a potential bully or perpetrator

increases, and the perpetrators may share the images publicly via Facebook. The results of the present study underscore the prevalence of such incidents in a college-aged sample.

Finally, many participants reported observing incidents involving a victim's weight or personal appearance. Much research has found an association between overweight and obesity and victimization in traditional bullying episodes in middle-school and high-school aged students (e.g., Janssen, Craig, Boyce, & Pickett, 2004; Fox & Farrow, 2009). In the present study, individuals were targeted online due to their weight, as well. Many of these incidents occurred in response to pictures and photographs. As individuals use SNSs to strategically manage their self-presentation (boyd & Ellison, 2007; Walther et al., 2008), victims may be especially concerned with hurtful actions and messages relating to their weight or appearance. On Facebook, individuals can choose to delete photos if they are unflattering, and they can choose to upload and highlight more flattering photographs. Overall, personal appearance is an especially salient concern on Facebook and other SNSs, and is also a somewhat frequent topic of cyberbullying episodes.

Limitations and rationale for Study 2. Despite the support for many of the hypotheses, a second study was warranted for several reasons. First, the present study utilized recall methods. Although research suggests that recall of past events remains relatively consistent over time (e.g., Baddley, 1990; Ross & Conway, 1986), an experimental design allows for the same hypotheses to be examined without relying on the participants' memory of a past event. Additionally, memory distortion may have occurred, such that events that took place after the bullying episode (e.g., whether or not

someone else intervened) may have influenced participants' responses (e.g., Stafford & Daly, 1984).

Moreover, participation in Study 1 was limited to individuals who could recall a past event in which someone they knew was targeted. Although one form of selection bias was minimized by allowing individuals to report on both an incident in which they did and did not intervene, it may be that individuals who have witnessed a cyberbullying episode behave differently than individuals who have not been exposed to such behavior. Hence, the second study will allow for more diverse range of participants. Further, the design of the second study is more consistent with previous experimental research into both the diffusion of responsibility effect (e.g., Darley & Latané, 1968a) and bystander intervention during traditional bullying (e.g., Gini et al., 2008).

The following hypotheses are proposed. The hypotheses are based upon the rationale for Study 1, but have been altered to reflect the design of Study 2 (i.e., group comparisons rather than linear relationships).

H5a: Individuals in the low number of bystanders condition will report a higher likelihood of engaging in active defending behavior than individuals in the high number of bystanders condition.

H5b: Individuals in the low number of bystanders condition will report a lower likelihood of engaging in passive observing behavior than individuals in the high number of bystanders condition.

H5c: Individuals in the low number of bystanders condition will report a higher likelihood of engaging in social support behavior than individuals in the high number of bystanders condition.

H6a: Individuals in the low depersonalization condition will report a higher likelihood of engaging in active defending behavior than individuals in the high depersonalization condition.

H6b: Individuals in the low depersonalization condition will report a lower likelihood of engaging in passive observing behavior than individuals in the high depersonalization condition.

H6c: Individuals in the low depersonalization condition will report a higher likelihood of engaging in social support behavior than individuals in the high depersonalization condition.

H7a: The effect of the number of bystanders on active defending behavior will be moderated by perceived depersonalization, such that individuals who perceive themselves as not visible during the bullying episode will be less likely to defend the victim when in the presence of other bystanders than individuals who perceive themselves as visible.

H7b: The effect of the number of bystanders on passive observing will be moderated by perceived depersonalization, such that individuals who perceive themselves as not visible during the bullying episode will be more likely to passively observe when in the presence of other bystanders than individuals who perceive themselves as visible.

H7c: The effect of the number of bystanders on support behavior will be moderated by perceived depersonalization, such that individuals who perceive themselves as not visible during the bullying episode will be less likely to offer support when in the presence of other bystanders than individuals who perceive themselves as visible.

H8a: Individuals in the high relational closeness condition will report a higher likelihood of engaging in active defending behavior than individuals in the low relational closeness condition.

H8b: Individuals in the high relational closeness condition will report a lower likelihood of engaging in passive observing behavior than individuals in the low relational closeness condition.

H8c: Individuals in the high relational closeness condition will report a higher likelihood of engaging in social support behavior than individuals in the low relational closeness condition.

Chapter 4: Study 2

In Study 2, the open-ended, open-ended data from Study 1 were used to create scenarios. Within the scenarios, the central IVs of the study (number of bystanders, depersonalization, and relationship) were manipulated for an experimental design which tested the same twelve central hypotheses of the study. However, because an experimental design was utilized, hypotheses for study two were tested using group comparisons, rather than linear relationships.

Ultimately, the second study was designed to triangulate the findings of Study 1 and use an experimental method to manipulate the number of bystanders, depersonalization, and relationship with the victim, similar to previous research on the bystander effect and cyberbullying (e.g., Gini et al., 2008).

METHOD

Pilot study. The scenarios for the first study were created after examining the open-ended responses to the first study. As part of the data analysis for the research question in Study 1, the researcher and an assistant independently read the open-ended responses and created several scenarios which mirrored the responses and allowed the researchers to manipulate three independent variables (e.g., number of bystanders, depersonalization, and relationship with the victim).

After the creation of five such scenarios, one was discarded because the incident was too broad, and one additional scenario was discarded because it related to homophobia, and participants' attitudes towards homosexuality likely would have been a confounding/complicating variable.

Thus, three scenarios were created (Appendix A) and examined with a pilot test. A baseline version of each scenario was used for the pilot test (low number of bystanders, low depersonalization,close friendship). Separate scenarios were generated for men and women so the victim in the scenario was always the same sex as the participant.

An online survey was used to test the scenarios. Participants were randomly presented with a scenario, and were required to stay on the page displaying the scenario for at least 45 seconds. After reading the scenario, participants were presented with items regarding the believability (Kearney, Plax, Smith, & Sorenson, 1988) and hurtfulness of the scenario (Vangelisti & Young, 2000) (Appendix A). Additionally, participants were provided with the definition of cyberbullying from the Kowalski and Limber (2007) scale and asked to consider whether the scenario constituted a cyberbullying episode. (Appendix A)

Participants in the pilot study included 42 undergraduate students at large southwestern university. A majority of the sample was female ($n = 35$, 83.3%). Participants' ages ranged from 18 to 34 ($M = 21.19$; $SD = 2.93$).

Three separate one-way, between subjects ANOVAs were conducted to compare the three scenarios in regards to their believability, degree of hurt, and whether the scenario constituted cyberbullying. The ANOVAs were not significant for degree of hurt, $F(2, 41) = .04$, $p = .96$, or whether the scenario constituted cyberbullying, $F(2, 41) = .03$, $p = .97$. The ANOVA approached significance 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 higher than the believability of the

"relationship" scenario ($M = 5.00$, $SD = 1.07$) and the "burn book" scenario ($M = 4.88$, $SD = 1.12$).

Since there were no significant differences between the scenarios in regards to level of hurt or the degree to which the scenario constituted a cyberbullying episode, one-sample t-tests were used to examine the scores of the hacking scenario to confirm they were above the theoretical midpoint of the scale (i.e., 4 on a 7-point scale). The mean hurt score for the scenario was 5.63 ($SD = .97$), which was significantly higher than the midpoint of the scale, $t(41) = 6.51$, p < .001. The mean level of agreement that the scenario constituted a cyberbullying episode was 6.37 ($SD = 1.34$), which was also significantly higher than the midpoint of the scale, $t(41) = 6.83$, p < .001. Finally, the mean believability rating of the hacking scenario was 5.69 ($SD = 1.02$), which was significantly higher than the midpoint of the scale, $t(41) = 6.42$, p < .001. Thus, the hacking scenario was selected as the optimal vignette for Study 2.

Participants. Participants in Study 2 consisted of 379 undergraduate students at a large southwestern university. Most of the sample was female ($n = 260$, 68.2%). Participants ranged in age from 18 to 50 ($M = 20.69$; $SD = 2.98$). 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%) ethnic origin. Respondents were offered course extra credit for their participation, and were told that their participation in the study was completely voluntary and that alternative opportunities for extra credit were available for those who cannot or do not want to participate.

Procedure. Similar to previous research examining the role of bystanders in bullying situations (e.g., Gini et al., 2008), respondents read a scenario which described an online bullying incident. Participants completed an online survey in which they were randomly assigned to one of eight conditions. The three central IVs investigated in Study 1 (number of bystanders, depersonalization, and relationship) were examined. In the hacking scenario (Appendix A), the number of bystanders (many, few), sense of depersonalization (high, low), and relationship with the victim (close, acquaintance) were manipulated (Appendix A). Eight versions of the scenario were created, one for each of the conditions in the 2X2X2 design. To partially control for potential sex differences, participants read scenarios in which the victim was their same sex. The Qualtrics online survey software was used to randomize the presentation of scenarios and balance participation between conditions, and participants were required to remain on the page displaying the scenario for at least 45 seconds before the link appeared allowing them to continue the survey. Participants were told to carefully read the scenario, and to try 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" or "low" number of frineds 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, the standard deviation was added and subtracted from the mean and rounded to the nearest

ten to create the manipulation – a victim with many friends/bystanders (1,900) and a victim with few friends/bystanders (170).

Depersonalization was manipulated by altering whether or not 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."

After reading the scenarios, participants completed several additional measures (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 participant's number of Facebook friends ($M = 931.41$, $SD = 712.87$). Dependent variables included the three possible reactions to the bullying episode: active defending ($M = 4.45$, $SD = 1.56$, $\alpha = .85$), passive observing ($M = 3.44$, $SD = 1.40$, $\alpha = .83$), and 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 to the victim. Each of these measures was described in the Methods section of Study 1 (and Appendix A).

Because Study 2 was recruited from a broader sample (i.e., participants were not required to have witnessed a cyberbullying incident to participate), several items were administered to assess the frequency of cyberbullying and participants' perceptions of whether or not cyberbullying was a problem for university students. Respondents were provided with a definition and description of cyberbullying created by Kowalski and Limber (2007), which is described in Appendix A. Participants then completed the electronic bullying scale, along with several additional questions designed to examine

college students' experiences as a witness to cyberbullying. Individuals indicated how many cyberbullying incidents they had witnessed in the past three months, and also indicated on a 5-point scale (1 = *not very often*, 5 = *very often*) how frequently the incidents occurred in various contexts (text messaging, email, Facebook, Twitter, instant messaging, online message boards, video chat, or phone calls). Finally, individuals were asked to indicate the extent to which they agreed with two statements regarding the prominence of cyberbullying amongst college students (1 = *strongly disagree*; 7 = *strongly agree*). First, respondents were asked the extent to which they agreed that cyberbullying is a significant problem among college students. Second, participants were asked the extent to which they agreed that colleges and universities should implement programs to address cyberbullying.

Finally, participants answered two open-ended awareness check items. Respondents were asked, "What do you think the purpose of this survey was?" and "What do you think this survey was trying to study?" Two individuals indicated that the survey related to the bystander effect, and their responses were removed from subsequent analyses. The remainder of the responses did not indicate an awareness of the goals of the experiment.

RESULTS

Manipulation check. To ensure the scenarios activated the expected differences relating to number of bystanders, depersonalization, and closeness, a series of independent samples t-tests were conducted. Participants were asked to indicate how many people witnessed the hurtful episode, and how many people were aware that the

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victim was being targeted. The mean of the two items was calculated. Indeed, 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 individuals in the low number of bystanders condition ($M = 74.63$, $SD = 217.46$), $t(375) = 7.05$, $p < .001$, $d = .73$. Additionally, individuals in the high depersonalization condition reported feeling more depersonalized ($M = 5.31$, $SD = 1.50$) than individuals in the low depersonalization 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 individuals in the acquaintance condition ($M = 4.01$, $SD = 1.35$), $t(375) = 4.62$, $p < .001$, $d = .48$.

Cyberbullying prevalence. Seventy-four participants (19.9%) indicated that they had been cyberbullied in the last three months. Of those who were cybebullied in the last three months, 47% of individuals 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 ($Mdn. = 1$; $SD = 6.66$).

Individuals who had witnessed at least one cyberbullying episode in the past three months indicated that most of the cyberbullying incidents they witnessed occurred on Facebook ($M = 3.90$, $SD = 1.09$), followed by Twitter ($M = 2.86$, $SD = 1.42$), text messaging ($M = 2.54$, $SD = 1.41$), phone calls ($M = 1.69$, $SD = 1.06$), instant messaging

($M = 1.57$, $SD = 1.00$), online message boards ($M = 1.52$, $SD = 0.99$), email ($M = 1.41$, $SD = 0.85$), and video chat ($M = 1.33$, $SD = 0.80$). Finally, some participants indicated that they thought cyberbullying was a significant problem amongst college students ($M = 3.41$, $SD = 1.65$), and participants scored just below the midpoint of the scale in regards to whether university programs should be implemented to address cyberbullying ($M = 3.54$, $SD = 1.76$).

Hypothesis tests. The hypotheses were tested using a 2X2X2 multivariate analysis of covariance (MANCOVA) with number of bystanders, depersonalization, and relationship as the between-subjects factors. Active defending, passive observing, and the three types of social support were the dependent variables. Because they were correlated with each of the DVs (all rs > .2; $p < .001$), degree of hurt and a dummy-coded variable representing participant sex were included as covariates. Cyberbullying experience was not significantly correlated with any of the DVs, so the variable was not tested as a covariate. Bartlett's test of sphericity was significant, $\chi^2 (14) = 1133.84$, $p < .001$, indicating that the dependent variables were empirically 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 number of bystanders, $F(5, 358) = 2.43$, $p < .05$, Wilks' $\Lambda = .97$, depersonalization, $F(5, 358) = 4.02$, $p = .001$, Wilks' $\Lambda = .95$, and closeness, $F (5, 358) = 5.45$, $p < .001$, Wilks' $\Lambda = .89$.

Additionally, there was a significant three-way interaction between the three IVs, $F(5, 358) = 2.50$, $p < .05$, Wilks' $\Lambda = .96$. All two-way interactions were non-significant.

The follow-up ANCOVAs revealed significant differences between each of the conditions and many of the DVs. Table 8 displays the results of the ANCOVA for number of bystanders. 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 support or esteem support. Thus, hypotheses 5a and 5b were confirmed, and hypothesis 5c was partially confirmed.

Table 9 displays the results of the ANCOVA for depersonalization. Individuals in the low depersonalization condition reported higher levels of active defending, emotional support, esteem support, and network support and lower levels of passive observing than individuals in the high depersonalization condition. Hypotheses 6a, 6b, and 6c were confirmed.

Table 10 displays the results of the ANCOVAs for closeness. Individuals in the close friend condition reported higher levels of active defending, emotional support, and network support and higher levels of passive observing than individuals in the acquaintance condition. The groups did not differ in their use of esteem support. Thus, hypotheses 8a and 8b were confirmed, and hypothesis 8c was partially confirmed.

However, each of the above effects must be considered in light of a significant three-way interaction. The predicted interaction between number of bystanders and depersonalization (hypothesis 3) was not significant, $F(5, 358) = .56$, ns, Wilks' $\Lambda = .99$.

However, as noted above, there was a significant three-way interaction between number of bystanders, depersonalization, and closeness. The follow-up ANCOVA 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 depersonalization and number of bystanders operated differently based on whether the participant was in the close friend or acquaintance condition. Figure 1 displays a graphing of the interaction for acquaintances, and Figure 2 displays a graph of the interaction for close friends.

The number of bystanders and depersonalization variables were combined to create two new variables with four levels. For acquaintances, 1 = high number of bystanders/low depersonalization ($n = 47$), 2 = low number of bystanders/low depersonalization ($n = 49$), 3 = high number of bystanders/high depersonalization ($n = 48$), 4 = high number of bystanders/low depersonalization ($n = 46$). For close friends, 1 = high number of bystanders/low depersonalization ($n = 46$), 2 = low number of bystanders/low depersonalization ($n = 47$), 3 = high number of bystanders/high depersonalization ($n = 47$), 4 = high number of bystanders/low depersonalization ($n = 47$).

For acquaintances, the Tukey B post hoc test indicated that individuals who were in the high number of bystanders and high depersonalization condition ($M = 3.48$, $SD = 1.55$) reported lower active defending than individuals in the high number of bystanders and low depersonalization condition ($M = 4.32$, $SD = 1.40$), individuals in the low number of bystanders and low depersonalization condition ($M = 4.42$, $SD = 1.41$), and

individuals in the high number of bystanders and low depersonalization condition ($M =$ 4.18, $SD = 1.51$). For close friends, the Tukey B post hoc test indicated that individuals who were in the low number of bystanders and low depersonalization condition ($M =$ 5.75, $SD = 1.16$) reported higher active defending than individuals in the high number of bystanders and low depersonalization condition ($M = 4.66$, $SD = 1.45$), individuals in the high number of bystanders and high depersonalization condition ($M = 4.43$, $SD = 1.58$), and individuals in the high number of bystanders and low depersonalization condition (M $= 4.43$, $SD = 1.55$).

Overall, the results partially confirm hypothesis H7a – depersonalization moderated the effect of number of bystanders such that individuals in the high depersonalization bullying scenario were less likely to defend the victim when in the presence of other bystanders than individuals who were in the non-depersonalized condition, but only when they were assigned a scenario in which the victim was an acquaintance. When the victim was a good friend, depersonalization also moderated the effect of number of bystanders, but in this case individuals in the low depersonalization and low number of bystanders condition were more likely to report intent to actively defend the victim than each of the other conditions.

Chapter 5: General Discussion

The central purpose of the present study was to investigate the predictors of bystander intervention in cyberbullying episodes. Previous research has underscored the importance and effectiveness of bystander intervention in both traditional and cyberbullying incidents. For example, bystander active defending behaviors (such as confronting a bully) are quite effective in stopping bullying episodes (e.g., Hawkins et al., 2001), and receipt of social support following a bullying episode positively influences victim well-being (e.g., Matsunaga, 2010). Moreover, a bystander passively standing by to observe an incident can influence a victim to feel isolated, which can compound the negative effects of bullying (e.g., Kowalski, 2007; Newman et al., 2005).

However, to date few studies have examined bystander intervention in cyberbullying episodes. Certain features of online environments were expected to influence bystander behavior. To that end, two studies investigated three variables which were predicted to influence the behavior of a cyberbullying bystander – the presence of other bystanders and diffusion of responsibility in bystander behavior, the effects of depersonalization, and relational closeness.

BYSTANDER INTERVENTION

The overall pattern of results in both Study 1 and Study 2 suggest that several variables play a role in bystander intervention and social support behaviors in cyberbullying episodes. In Study 1, individuals recalled a past incident of a cyberbullying that they had witnessed, and results suggest that the number of bystanders, perceived depersonalization, and closeness with the victim each was associated with active

defending and passive observing behavior. Perceived depersonalization and closeness with the victim also were each related to social support behaviors. Additionally, participants reported on two incidents, one in which they did intervene in some way, and one in which they did not. A within-subjects comparison between the incidents revealed that, in the incident in which participants intervened, they perceived fewer bystanders, a lower level of depersonalization, and reported that their relationship with the victim was closer than when reporting on an incident in which they did not intervene.

In Study 2, the results of Study 1 were largely replicated in an experimental design in which participants read a scenario about a cyberbullying incident. However, there was also a significant three-way interaction between the three IVs and active defending behavior. The interaction revealed that the effects of number of bystanders and depersonalization operated differently depending on the relationship between the bystander and the victim. The following sections review the major findings of the present research.

Three-Way Interaction. When individuals read a scenario in which they were acquaintances with the victim, the influence of the number of bystanders was moderated by depersonalization, such that individuals who were in the depersonalized condition and who read the scenario with a high number of bystanders reported a lower likelihood of active defending behavior than individuals who read the scenario with a low number of bystanders. However, when individuals were in the low depersonalization 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

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scenario in which they were close friends with the victim, those who were also assigned to the low depersonalization and low number of bystanders condition reported the highest likelihood of active defending behavior. In other words, individuals 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 the interaction effect in Study 2 imply support for the work of Schwartz and Gottlieb (1981), 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 the present study, the same moderating effect occurred, but only when the victim was an acquaintance of the bystander, not a close friend. A post-hoc test indicated that a similar three-way interaction effect was not significant in Study 1 for any of the DVs ($p > 0.2$). However, it may be difficult to replicate a "stranger" relationship between a bystander and a victim in a recall study. For instance, on Facebook individuals are often friends with people whom they have also met offline (Lampe, Ellison, & Steinfeld, 2007). Not surprisingly, individuals reported closer relationships with the victims in Study 1 ($M = 4.81$; $SD = 1.95$) than they did with the hypothetical victim in Study 2 ($M = 4.32$; $SD = 1.38$), $t(625) = 3.69$, $p < .001$. Hence, the methodology of the second study may have been able to better replicate the experience of seeing a stranger targeted in an online environment.

Of course, the interaction effect was only significant for active defending behavior, not passive observing or any of the social support variables. The items on the active defending scale were conceptually similar to the DV in many of the classic studies

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on the diffusion of responsibility. For instance, the scale includes items related to confronting the perpetrator or others who have joined in the bullying, and the DV in the Schwartz and Gottlieb (1981) study examined whether or not (and how rapidly) a bystander acted to confront a perpetrator. Hence, the present results appear to replicate and extend those findings. In summary, individuals 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 them.

Diffusion of responsibility. The other results were largely consistent between Study 1 and Study 2, and reflected general support for the diffusion of responsibility effect in cyberbullying contexts. In Study 1, the number of perceived bystanders to the incident predicted behaviors related to helping the victim, but were not associated with social support. The within-subjects results of Study 1 also lend support to the diffusion of responsibility effect – individuals reported fewer witnesses/bystander in the incident in which they intervened than the incident in which they did not intervene. In Study 2, individuals who read the scenarios with a lower number of bystanders indicated a higher rate of active defending behavior and a lower level of passive observing behavior than individuals who read the scenarios with a high number of bystanders. Once again, the social support behaviors (with the exception of network support, which revealed a near-significant effect) did not differ in regards to whether there were many or few bystanders to the cyberbullying episode.

The lack of an effect for number of bystanders on social support may involve the nature of such behaviors. Past research into the bystander effect did not explicitly measure social support as a DV, since many of the studies related to helping a stranger, and social support behaviors often necessitate a preexisting relationship with the victim. These results suggest that, although individuals are usually open to providing social support to cyberbullying victims (the means for social support were all above the midpoint of the scale), the number of bystanders does not appear to influence the likelihood of a bystander engaging in social support.

The diffusion of responsibility is one of the most extensively researched, consistently supported phenomena of human behavior (Latané & Nida, 1981). Recently, the effect of the number of bystanders has been examined in online environments as well. Studies have revealed that bystanders were more likely to offer help when there were fewer other posters active on an online message board (Markey, 2000; Voelpel et al., 2008), and individuals are less likely to respond to an email request when the email is sent to multiple recipients (Blair et al., 2005). Relating to bullying (and cyberbullying) specifically, researchers have alluded to the diffusion of responsibility effect when examining possible predictors of bystander intervention (e.g., Gini, 2006; O'Connel et al., 1999; Olweus, 2001; Salmivalli, 2010), but to date have not specifically examined the role of the number of bystanders in bullying episodes. Examining the number of bystanders is especially important in online bullying episodes, where the number of bystanders to a bullying episode is potentially much higher than traditional bullying episodes. Consider that participants in the first study reported that, on average, over one

hundred other people were witnesses to or aware of the reported cyberbullying incidents. Although the present study does not examine offline bullying episodes as a comparison point, it is likely that there are often fewer bystanders in offline incidents. Thus, the diffusion of responsibility effect appears to extend into the cyberbullying context, a setting in which there are often multiple bystanders present.

Depersonalization. The results of both Study 1 and Study 2 also lend support to the effect of depersonalization on bystander active defending, passive observing, and social support behaviors. In Study 1, the extent to which individuals perceived that the victim and/or perpetrator were not aware of their presence was negatively associated with likelihood to actively defend and offer social support to the victim, and positively associated with likelihood of passively observing the incident. Moreover, the within-subjects results of Study 1 revealed that participants reported feeling less depersonalized in incidents in which they intervened than the incident in which they did not intervene. In Study 2, individuals who read the scenarios in which they were logged into the Facebook chat feature (and hence potentially identifiable to the victim, perpetrator, and other witnesses) reported more active defending and social support and more passive observing than individuals who read the scenario in which they were not logged into the Facebook chat feature.

Research into CMC has traditionally emphasized the potentially antinormative aspects of an anonymous online environment (Douglas, 2008). For example, research found that when individuals were anonymous in online contexts, they often engaged in hostile communication towards others (e.g., Douglas & McGarty, 2001; Sproull &

Kiesler, 1986). However, the previously used definitions of deindividuation and anonymity are not as applicable in modern online communication environments such as Facebook, where pictures and other identifying information are readily available (Walther, 2011). Rather, this study examined another view of depersonalization (Schwartz & Gottlieb, 1981), which emphasized whether or not the bystander was visible to other witnesses, the bully, or the victim.

The results were consistent with other, more recent studies which have utilized similar operationalizations of depersonalization (e.g., Hollenbaugh & Everett, 2013; Lapidot-Lefler & Barak, 2012). Lapidot-Lefler and Barak argue that, in light of new technologies which allow for various levels of identifiability, anonymity must be considered as a multi-faceted construct. The present study addresses this critique by examining the effects of online depersonalization on bystander intervention. Study 1 measured perceptions of depersonalization. The second study manipulated a structural cue relating to depersonalization – whether or not the participants were logged into Facebook chat, and thus whether or not they were visible to the victim, the bully, and/or other bystanders. The results were consistent regardless of how depersonalization was operationalized. Individuals who were depersonalized (Study 2), or who perceived themselves to be depersonalized (Study 1) were less likely to report an intention to intervene and defend a cyberbullying victim and offer social support to the victim, and were more likely to passively observe the incident.

Relationship to the victim. In Study 1, closeness with the victim was positively associated with active defending and social support behavior, and negatively associated

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with passive observing behavior. Similarly, the within-subjects effects of Study 1 indicated that individuals were closer with victims in the incident in which they intervened as compared to the incident in which they did not intervene. Moreover, Study 2 replicated the results, in that 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 demonstrated the largest effect size, indicating that the relationship between the bystander and the victim is perhaps the key determinant of bystander behavior.

The results of this study extend previous work examining the importance of relational closeness on bystander intervention into the cyberbullying context. In past research into bystander intervention in traditional bullying episodes, Oh and Hazler (2009) demonstrated that closeness with the victim of a bullying incident was associated with actively defending the victim. In a non-bullying context, Darley and Latané (1968b) found that friends of a victim were more likely to intervene during an emergency than strangers, and Levine and Crowther (2008) established that friendship-related variables were more important than group size in predicting bystander intervention during emergencies. Consistent with this finding, the present studies revealed that closeness to the victim often demonstrated the largest effect size of the three central IVs when predicting intervention behaviors.

With regards to social support behavior, some past research has examined the role of relational satisfaction and closeness on the provision of social support. Although relational closeness has not been directly examined, relational satisfaction and relational quality have each been found to be associated with the proscription of social support (Dunkel-Schetter & Skokan, 1990; Hobfoll & Lerman, 1989). The results of the present research extend these findings, and indicate that relational closeness is a key determinant of bystander social support behaviors in the cyberbullying context.

As individuals continue to associate online with people they also know offline, the role of relationships in online environments will continue to grow in importance (Lampe et al., 2007). Another potential implication of the current study's findings is the detrimental role of social isolation. The present study only examined the viewpoint of a single bystander. Although there are many circumstances in which a single bystander may decide not 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 individuals with few friends or few close friends. Because social isolation exacerbates the effects of bullying (Kowalski, 2007; Newman, Holden, & Delville 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 emphasize 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.

TYPES OF CYBERBULLYING INCIDENTS

The open-ended results in Study 1 suggest that cyberbullying on Facebook can be identified based on both the strategy used by the perpetrator and the topic addressed during the incident. Since Study 2 focused on scenarios based on just one of the strategies, the implications of the results are largely reviewed in Study 1.

Overall, public and private comments were the most frequently reported strategies. Several of the strategies, including public comments, posting status updates about a victim, and posting photographs can easily be seen by members of the victim's (and sometimes the perpetrator's) social networks. The fact that such behavior is viewable by a large number of people has several implications. As individuals use SNSs such as Facebook to manage their identity and self-presentation, the hurtful nature of cyberbullying incidents are likely to affect the victim's identity, especially given the importance of negative information when forming impressions (Kellerman, 1989).

Some of the cyberbullying topics reported by participants, such as romantic relationships, nonromantic relationships (e.g., friendships), sexual behavior, physical appearance, and skills/talents overlapped with previous research into the topics of hurtful messages (Vangelisti, 1994). Many cyberbullying incidents occurred due to issues linked to romantic relationships and friendships. As online communication becomes further integrated into individuals' daily routines, offline incidents and issues related to romantic

relationships and friendships will likely continue to manifest online (e.g., Bryant &

Marmo, 2012; Walther, 2011), as well.

LIMITATIONS

There are several limitations to the studies reported in this manuscript. First, the

results of both Study 1 and Study 2 are based on self-report data. Thus, participants may

have overestimated their propensity to act to defend and offer social support to victims of

cyberbullying due to a social desirability bias. One method for addressing this concern

would be to use behavioral dependent variables in a laboratory setting. However, since

one of the intents of the present study was to collect data on participants' past

experiences with actual cyberbullying episodes, the recall nature of Study 1 was

warranted. Still, future research could use mock-up SNS profiles and offer participants an

opportunity to act in some way to protect a confederate. Additionally, the open-ended,

written data from the present study could be analyzed with natural language processing

tools, such as Linguistic Inquiry and Word Count (LIWC) software (Pennebaker, Booth,

& Francis, 2007). Participants were not aware that their written responses would be

analyzed, and thus their writing may be less susceptible to social desirability biases than

their self-report responses. Furthermore, LIWC analyzes the proportion of "junk words"

(e.g., function words such as pronouns) in writing samples, which often do not convey

content and are therefore less likely to be consciously manipulated by participants

(Chung & Pennebaker, 2007). Individuals may use different word proportions which are

indicative of their likelihood to act. For example, a higher proportion usage of third--

person singular pronouns (e.g., "she" and "he") has been linked to higher attention to

others (Chung & Pennebaker, 2007). In the present study, the use of third-person pronouns in open-ended prompts could also relate to a bystander's intention to take action and defend the victim. Future research should explore this link.

Another potential limitation involves the operationalization of cyberbullying. Although the recall prompt for a cyberbullying episode in the first study was derived from previous work on cyberbullying in college-aged samples (Baldasare et al., 2012), the term cyberbullying was not used in the prompts, and survey items which referred to the "bully" were changed to refer to the "perpetrator." This choice was made due to the media attention surrounding the issue of cyberbullying. In order to avoid a response bias due to pop-culture definitions of cyberbullying and to solicit reports of a range of behaviors, the terminology was slightly altered. Still, in both the pilot and main surveys for Study 2, a vast majority of participants reported that they believed the scenarios were examples of cyberbullying episodes. Cyberbullying has been defined in myriad ways (e.g. Baldasare et al., 2012; Patchin & Hinduja, 2006; Slonje & Smith, 2007; Tokunaga, 2010). However, Marwick and boyd (2011) have noted that teenagers and young adults do not refer to such incidents as "cyberbullying." Rather, in an effort to distance themselves from the emotional pain often resulting from cyberbullying, teens and young adults instead refer to hurtful episodes, many of which occur online, as "drama." Thus, although the present study may use a broader definition of cyberbullying than some other researchers (e.g., Tokunaga, 2010), the exclusion of "cyberbullying" terminology in the prompts likely allowed for a wider range of potential responses.

In Study 2, the number of bystanders was manipulated by altering how many Facebook friends the victim had. The manipulation was successful – participants reported more bystanders for scenarios in which the victim had a high number of friends than scenarios in which the victim had a low number of friends. However, the operationalization of the variable may also have activated differing impressions of victim extroversion. Previous research demonstrates a quadratic relationship between number of Facebook friends and extroversion. Individuals with a low number of friends are seen as less extroverted, whereas individuals with an average and above average number of Facebook friends are seen as more extroverted (Tong, Van Der Heide, Langwell, & Walther, 2008). In other words, in the present study individuals with a higher number of friends may have been seen as more extroverted than individuals with a low number of friends. Participants may have therefore believed the victim was not in need of their assistance. Although the results of the second study were largely consistent with Study 1, in which the number of Facebook friends was not a factor, future research should also investigate whether perceived extraversion of the victim affects the likelihood of bystander intervention.

Additionally, the present study examined cyberbullying in a college sample. However, in Study 1 participants were allowed to report on an incident which had occurred in the previous two years. Therefore, some participants may have reported on an incident which took place during high school, and the results of the study may not solely relate to college cyberbullying experiences. Although this factor may complicate the application of the findings to a specific population (e.g., high school students or college

students), this methodology is consistent with previous research into bullying amongst college students (e.g., Matsunaga, 2010). To test the effects of the time since the event, the amount of time since the incident occurred was entered as a covariate in Study 1, but it did not change the magnitude, direction, or significance of the results. Hence, the variable was removed to maintain parsimony. Additionally, Study 2 largely replicated the results of Study 1 in a non-recalled scenario. However, future research might explore whether there are differences in bystander intervention behavior due to age or school classification.

Finally, both Study 1 and Study 2 investigated cyberbullying within the Facebook context. Facebook is the most widely visited website worldwide ("Top Sites", 2013), so the use of Facebook in this research allows for results which are applicable to a wide range of individuals. Facebook was also chosen due to several features of the medium which were being directly investigated by this study. For example, because status updates, comments, photos, and videos posted on Facebook are often viewable by a user's entire social network, there are potentially many other bystanders. Additionally, individuals may feel depersonalized based on whether or not they are logged into chat or if they have recently interacted publicly by commenting on other posts or photos. In other potential cyberbullying contexts, these factors may not play as important a role in bystander intervention. In some contexts, such as text messaging, there may not be any bystanders, which could limit the applicability of most prior research into bystander intervention.

FUTURE DIRECTIONS

Future studies should explore the potential mediating variables related to decision making in bystander intervention. Building upon their initials work examining the diffusion of responsibility, Latanè and Darley (1970) proposed a model for bystander decision making in emergency situations. One central feature of the model is the bystander's sense of personal responsibility for taking action. This sense of personal responsibility is often influenced by contextual factors, such as whether the bystander believes there are other witnesses present (Latanè & Darley, 1970). In turn, a sense of personal responsibility relates to the likelihood a bystander will take action. Hence, in cyberbullying incidents, a sense of personal responsibility could mediate the relationship between number of bystanders and intervention behaviors. Some recent research has extended the model into the traditional bullying context, and found that personal responsibility mediated the relationship between bullying attitudes and both active defending and passive observing behaviors (Pozzoli & Gini, 2013). The survey instrument used in the present study included several items relating to personal responsibility. Hence, future iterations of the current research will explore the mediating role of this variable.

In the present study, degree of hurt was used as a control variable, and in all but one instance the variable was significantly related to the dependent variables. Although assessing the degree of hurt evoked by cyberbullying incidents was not a central goal of the present study, the evidence suggests that the degree of hurt associated with the incident predicted the extent to which individuals acted to defend the victim. Emotions are often perceived as more hostile when communicated in online as compared to offline

environments (Kato & Akahori, 2004). Hence, it would be interesting to examine the difference between online and offline cyberbullying incidents in regards to perceptions of hurt, and how those perceptions subsequently relate to bystander intervention. Moreover, the perceived intentionality of hurtful messages influences attributions regarding the degree of hurt caused by the message as well as the distancing effects of the message or behavior on a relationship (Vangelisti & Young, 2000). However, the manner in which individuals assess the intentionality of online incidents may differ as compared to offline incidents. Presuming that individuals are aware of the structural affordances of an asynchronous CMC environment, particularly regarding the ability to edit messages and reconsider them before sending them (Walther, 1996), people may assume that messages in a CMC context are therefore more intentional. On the other hand, since individuals are often expected to present themselves in a positive manner online (Walther, 1996), it may be that the negative effects of online messages are seen as unintentional, similar to the concept of gaffes, or unintentional breaches in norms of social conduct (Goffman, 1981). Because intentionality plays an important role in the relational outcomes of hurtful messages, future research should explore the role of perceived intentionality on bystander intervention, as well.

The present study did not explore the role of individual differences (such as empathy) on bystander intervention. Some research into traditional bullying (e.g., Gini et al., 2007) has found that empathy is linked to increased helping behavior. Additionally, the expression of empathy is often a central aspect of many online communities (e.g.,

Pfeil & Zaphiris, 2007). Future research should examine the role of empathy in bystander intervention in cyberbullying episodes.

Finally, this research explored the strategies and content of cyberbullying episodes as a method for the creation of scenarios for Study 2. However future research can also examine whether individuals are more or less likely to intervene as a bystander depending on the type of incident. In other words, are individuals more likely to intervene when the topic of a cyberbullying episode relates to sex as compared to weight or personal appearance? Do incidents of hacking garner a stronger response from bystanders than an online burn book? Each of the above questions can be explored using secondary data from Study 1, or by partially replicating Study 2 by using different scenarios.

PRACTICAL IMPLICATIONS

Beyond the theoretical applications of the present study involving the diffusion of responsibility effect, anonymity/depersonalization in online environments, and the role of relational closeness, the results also offer several practical implications for both intervention programs and practitioners. First, the current findings point to the need for education programs targeting college students. Recently, films such as *Bully* (Hirsch & Lowen, 2011) and speaking tours such as *Stand for the Silent* (2013) have spotlighted the prominence and wide-ranging effects of bullying and cyberbullying in the secondary school environment. Additionally, academic research into cyberbullying targets middle-school and high school students (e.g,, Kowalski & Limber, 2007; Marwick & boyd, 2010). However, both previous research (e.g., Baldasare et al., 2012; Kowalski et al., 2012) and the descriptive data in Study 2 suggest that cyberbullying occurs frequently

amongst college students. Programs could include information on the "types" and "strategies" identified in the present study. Additionally, practitioners could advise students to be aware of the issues under examination in this research – variables such as the number of bystanders, depersonalization, and their relationship with the victim.

As stated by Darley and Latané (1968a) in their seminal paper on bystander intervention, "If people understand the situational forces that can make them hesitate to intervene, they may better overcome them" (p. 383). When individuals are aware of the potentially deleterious effects of these factors when acting as a bystander to cyberbullying, they may be more likely to act regardless of other bystanders, their relationship with the victim, or their perceived sense of depersonalization.

CONCLUSION

The findings presented in this research suggest that several variables – including the perceived number of bystanders, depersonalization, and relational closeness – each relate to bystanders' propensity to intervene during a cyberbullying incident. The implications of these results are wide-ranging. First, this study extends a long line of work into the diffusion of responsibility effect into the cyberbullying context. Second, it utilized a novel but conceptually necessary operationalization of anonymity (depersonalization) which more closely matches the experiences of modern communication technology, such as Facebook. Furthermore, closeness with a cyberbullying victim was found a key predictor in determining bystander intervention, an important finding given the propensity for individuals to communicate online with individuals they also know in offline environments (Lampe et al., 2007). Finally, this

research provides descriptive data on the types and strategies of cyberbullying episodes which occur in a college-aged sample. This information can be used both for the identification of cyberbullying by third parties, and for the conceptualization of cyberbullying in future research. Overall, examining the variables expected to influence bystander intervention in cyberbullying provides further insight into the interplay of technology, relationships and bullying behavior.

Tables

Table 1.

Means (and Standard Deviations), Chronbach's α, and results of Repeated Measures MANOVA (Study 1)

| Variables | Incident 1(Intervened) | | Incident 2 (Did not intervene) | | | | partial η^2 |
	M (SD)	α	M (SD)	α	F	Df	
Closeness to Victim	4.81 (1.95)	.98	3.63 (1.64)	.96	64.43**	(1, 235)	.22
Depersonalization	4.02 (2.00)	.95	5.23 (1.70)	.93	60.15**	(1, 235)	.20
Number of Bystanders	107.30 (210.58)	.82	173.11 (507.10)	.98	5.24*	(1, 235)	.02
Active Defending	4.25 (1.89)	.77	2.63 (1.63)	.82	117.97**	(1, 235)	.33
Passive Observing	2.97 (1.63)	.84	4.14 (1.72)	.77	74.53**	(1, 235)	.24
Emotional Support	3.41 (1.32)	.94	2.28 (1.39)	.98	121.95**	(1, 235)	.34
Esteem Support	3.36 (1.32)	.97	2.29 (1.40)	.99	106.71**	(1, 235)	.31
Network Support	2.99 (1.29)	.96	2.13 (1.29)	.98	84.37**	(1, 235)	.26

Note. *$p < .05$, **$p < .001$

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Table 2.

Correlations among the variables (Study 1) (N = 254)

	Bys	DePe	Vic Close	Defend	Observe	Em Sup	Es Sup	Net Sup	CB	Sex	Perp Close
Bys	-										
DePe	.18**	-									
Vic Close	-.28***	-.27***	-								
Defend	-.27***	-.47***	.42***	-							
Observe	.29***	.39***	-.49***	-.46***	-						
Em Sup	-.18**	-.31***	.77***	.52***	-.50***	-					
Es Sup	-.14*	-.31***	.71***	.48***	-.48***	.93***	-				
Net Sup	-.07	-.36***	.61***	.41***	-.42***	.82***	.85***	-			
CB	.08	.00	-.07	-.07	.08	-.09	-.08	.014	-		
Sex	.05	.01	-.08	-.12	-.01	-.18**	-.15*	-.12	.14*	-	
Perp Close	.01	-.07	-.09	.00	.10	-.16**	-.17**	-.12	.14*	.12	-
Hurt	.09	-.09	.08	.17**	-.05	.29***	.29***	.25***	-.20***	-.25***	-.14*

*Note. *$p < .05$, **$p < .01$, ***$p < .001$. Bys = number of bystanders; DePe = depersonalization; 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); Perp Close = closeness with the perpetrator; Hurt = Hurtfulness of cyberbullying episode.

Table 3.

Hierarchical Regressions Predicting Active Defending Behavior (Study 1) (N = 254)

Predictor Variables	Active Defending			
	B	*SE B*	B	ΔR^2
Step 1 Degree of Hurt	.23	.09	.17**	.03
Step 2 Num. of Bystanders	-.001	.00	-.14**	.31***
Depersonalization	-.34	.05	-.36***	
Closeness with Vic.	.26	.05	.27***	
Step 3 Interaction between number of bystanders and depersonalization	.00	.00	.01	.00

Notes. Active Defending: Total R^2 = .34; adjusted R^2 = .33. F (5, 249) = 25.22, p < .001.
‡p < .10, *p < .05, **p < .01, ***p < .001.

Table 4.

Hierarchical Regressions Predicting Passive Observing Behavior (Study 1) (N = 254)

Predictor Variables	Passive Observing			
	B	*SE B*	β	ΔR^2
Step 1 Num. of Bystanders	.001	.00	.13*	.32***
Depersonalization	.23	.04	.27***	
Closeness with Vic.	-.30	.05	-.38***	
Step 2 Interaction between number of bystanders and depersonalization	.00	.00	.02	.00

Notes. Passive Observing: Total R^2 = .33; adjusted R^2 = .32. *F (4, 250)* = 30.21, p < .001.
‡*p* < .10, **p* < .05, ***p* < .01, ****p* < .001.

Table 5.

Hierarchical Regressions Predicting Social Support Behaviors (Study 1) (N = 254)

	Emotional Support				Esteem Support				Network Support			
Predictor Variables	*B*	*SE B*	B	ΔR^2	*B*	*SE B*	B	ΔR^2	*B*	*SE B*	β	ΔR^2
Step 1 Participant Sex	-.16	.10	-.10‡	.11***	-.10	.10	-.06	.11**	-.07	.10	-.05	.07***
Closeness with Perp.	-.10	.05	-.13*		-.11	.05	-.13*		-.07	.05	-.09	
Degree of Hurt	.23	.06	.24***		.24	.06	.25***		.21	.06	.22**	
Step 2 Num. of Bystanders	.00	.00	.03	.57***	.001	.00	.05	.48***	.001	.00	.12*	.40***
Depersonalization	-.08	.03	-.12**		-.09	.03	-.13**		-.15	.03	-.23***	
Closeness with Vic.	.49	.03	.73***		.45	.03	.66***		.38	.03	.57***	
Step 3 Interaction b/w num. of B.S. and Dep.	.00	.00	.04	.001	.00	.00	.03	.001	.00	.00	.05	.001

Notes. 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.

Table 6.

Cyberbullying Strategies, Frequencies, and Examples

	First Incident (Intervened) Frequency	%	Second Incident (Did Not Intervene) Frequency	%	Example
Strategies:					
1. Hacking/Identity theft	5	1.9	11	4.2	"A girl cheated on her boyfriend while studying abroad, so the boyfriend broke into her facebook account and told all of her friends what she did and called her a whore and slut."
2. Fake profile	13	4.9	7	2.7	"Someone made a fake Facebook account and sent messages to my friend pretending to be a boy with a crush on her."
3. Online burn book	11	4.2	9	3.4	"… a group of "popular" girls created a page called The Burn Book and basically just tore into certain girls for different reasons. The profile was private, so you had to be added as a friend, but if you were on it, they made sure to add you so you could see what hurtful things were being said about you."
4. Ganging up	16	6.1	23	8.7	"My brother was targeted by a couple of young men on Facebook that took offense to his new group. They each of put up a couple of facebook statuses that expressed their disdain for the group."

Table 6 continued

	First Incident (Intervened) Frequency	%	Second Incident (Did Not Intervene) Frequency	%	Example
Strategies:					
5. Photograph	29	11.0	28	10.6	"A girl in my high school had a very embarrassing picture of her posted on Facebook. The picture was of her passed out on the floor at a party."
6. Video	2	0.8	2	0.8	"There was a girl that was raised in the same hometown as me and she starred in a dirty video. Another girl decided to post the link on facebook to make it known to others that she had done this."
7. Status update	18	6.8	16	6.1	"One of my good friends created a status targeting a girl she did not like."
8. Public comment	74	28.0	74	28.0	"Someone wrote a very mean and threatening message on my cousin's Facebook page."
9. Private comment	37	14.0	31	11.7	"A guy messaged a friend of mine and told him to stop talking to his girl and that he could never really be with her because he was fat and ugly."

Table 6 continued

	First Incident (Intervened) Frequency	%	Second Incident (Did Not Intervene) Frequency	%	Example
Strategies:					
10. Anonymous perpetrator	4	1.5	5	1.9	"There is something called honesty box on facebook, which allows you to anonymously submit comments to someone else. My friend got one that said 'what were you wearing today, you looked like a homeless person.'"
11. Arguments/Fights	12	4.5	23	8.7	"Two of my close friends got into an argument which carried over from an intense face to face argument into a public argument over facebook. They both said hurtful things that put the other person down."
12. No strategy indicated	23	8.7	12	4.9	
13. Other	2	0.8	2	0.8	

Table 7.

Cyberbullying Topics, Frequencies, and Examples

	First Incident (Intervened) Frequency	%	Second Incident (Did Not Intervene) Frequency	%	Example
Topics:					
1. Romantic Relationships	60	22.7	53	20.1	"One of my friends was having sex with one of my other friend's boyfriend. They were really good friends, but then the girl who was sleeping around posted pictures of her sitting on his lap for his girlfriend to see."
2. Politics	4	1.5	4	1.5	"My friend was targeted for being politically conservative around the time of the presidential election. In general there were ignorant comments about conservatives and it was implied he was not as smart as people who were more liberal."
3. Religion	4	1.5	2	0.8	"A friend posted a religious message around Christmas-time, and was challenged by people of dissenting beliefs. The argument quickly escalated from a disagreement, to personal attacks on the intelligence and common sense of my friend.

Table 7 continued.

	First Incident (Intervened) Frequency	%	Second Incident (Did Not Intervene) Frequency	%	Example
Topics:					
4. Weight	13	4.9	14	5.3	"My sister's ex boyfriend, his friends and new current girlfriend were all making fun of my sister's weight on Facebook. The ex boyfriend's friends said something along the lines of 'I'm glad you got rid of that whale of a tale.'"
5. Personal Appearance	17	6.4	32	12.1	"My friend posted pictures on Facebook of a trip she just went on. A girl classmate of ours committed on every picture critiquing what she looked like. Saying she was ugly and talked about how she didn't like the clothes she was wearing."
6. Sexual Orientation	12	4.5	14	5.3	"After reuniting with friends and acquaintances from at least 10 years ago on Facebook, this person was a target of hurtful and judgmental emails on Facebook. Since she had known these people, she had come out as being a lesbian to her friends and family. Once these people on Facebook were given insight into her life, they expressed how much they did not approve of her coming out and said hateful things in these messages."

Table 7 continued.

	First Incident (Intervened) Frequency	%	Second Incident (Did Not Intervene) Frequency	%	Example
Topics:					
7. Pregnancy	5	1.9	3	1.1	"A guy posted a status that was making fun of a pregnant teen for giving advice to other teen girls. He was making fun of her because she was pregnant out of wedlock and thought she was in no position to offer advice since, to him, she had made poor decisions."
8. Sexual Activity	25	9.5	27	10.2	"A few guys posted a naked picture of a girl I know on facebook for everybody to see and called her a slut."
9. Alcohol/Drugs	9	3.4	11	4.2	"A girl in my sorority posted pictures of another girl extremely intoxicated and nearly exposed to embarrass her."
10. Friendships	32	12.1	27	10.2	"A few years ago, one of my friends was upset with another one of our friends. The person was upset because the other guy had not done a favor for him that he had promised to do. To get back at him, he found a very embarrassing picture of my friend and posted it as his profile picture."

Table 7 continued.

	First Incident (Intervened) Frequency	%	Second Incident (Did Not Intervene) Frequency	%	Example
Topics:					
11. No topic indicated	26	9.8	25	9.5	
12. Other	12	4.5	17	6.4	

Table 8.

Estimated Marginal Means (and Standard Errors) for Number of Bystanders Associated with Dependent Variables

	High	Low	F	df	partial η^2
Dependent Variables					
Active Defending	4.31 (.10)	4.65 (.10)	6.09*	1, 372	.02
Passive Observing	3.72 (.10)	3.38 (.10)	6.31*	1, 372	.02
Emotional Support	3.38 (.06)	3.45 (.06)	0.75	1, 372	
Esteem Support	3.41 (.06)	3.50 (.07)	0.81	1, 372	
Network Support	3.15 (.07)	3.32 (.07)	2.94‡	1, 372	.01

Note. ‡$p < .10$, *$p < .05$

Table 9.

Estimated Marginal Means (and Standard Errors) for Depersonalization Associated with Dependent Variables

	High	Low	F	df	partial η^2
Dependent Variables					
Active Defending	4.22 (.10)	4.74 (.10)	14.33***	1, 372	.04
Passive Observing	3.74 (.10)	3.35 (.10)	8.51**	1, 372	.02
Emotional Support	3.29 (.06)	3.54 (.06)	8.84**	1, 372	.02
Esteem Support	3.32 (.07)	3.59 (.07)	8.77**	1, 372	.02
Network Support	3.13 (.07)	3.34 (.07)	4.77*	1, 372	.01

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 10.

Estimated Marginal Means (and Standard Errors) for Closeness Associated with Dependent Variables

	Acquaintance	Close Friend	F	df	partial η^2
Dependent Variables					
Active Defending	4.17 (.10)	4.79 (.10)	12.03***	1, 372	.06
Passive Observing	3.78 (.09)	3.31 (.10)	11.68**	1, 372	.03
Emotional Support	3.30 (.06)	3.53 (.06)	7.24**	1, 372	.02
Esteem Support	3.38 (.06)	3.53 (.07)	2.57	1, 372	
Network Support	3.15 (.07)	3.32 (.07)	3.40 ‡	1, 372	.01

Note. ‡$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$.

Figures

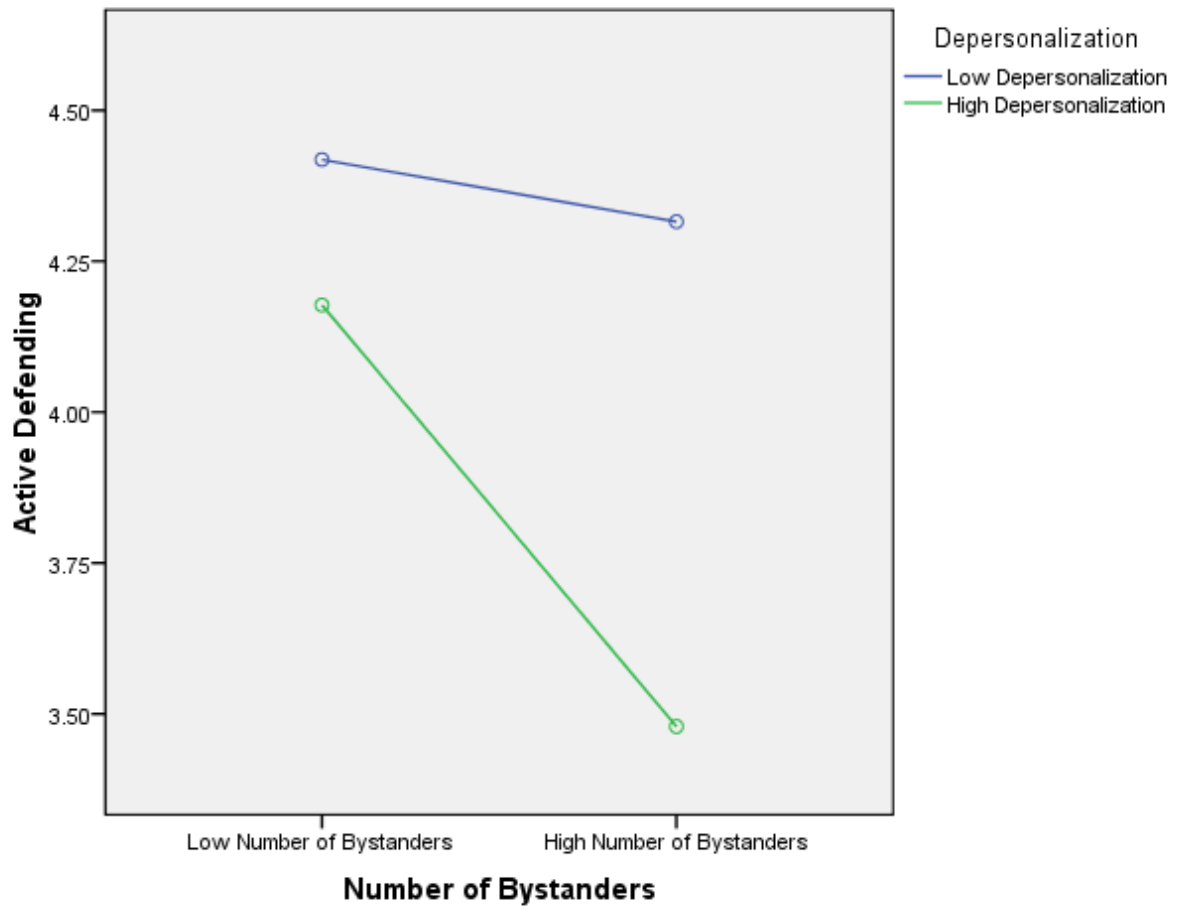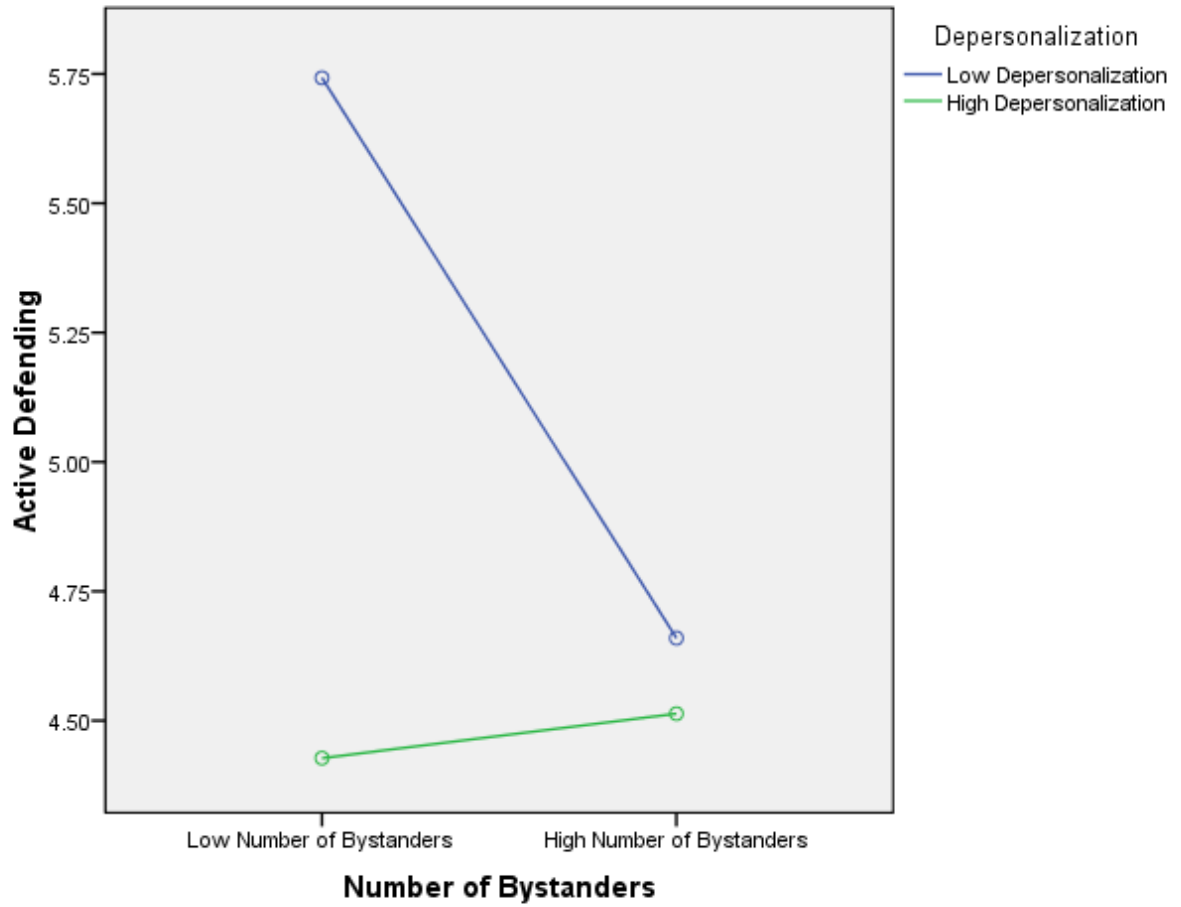Figure 1. Acquaintance Condition: Interaction between number of bystanders and depersonalization for active defending.

Figure 2. Close Friend Condition: Interaction between number of bystanders and depersonalization for active defending.

Appendix A

Electronic Bullying Questionnaire
(Kowalski & Limber, 2007)

The following section includes several questions about your experience with cyberbullying. Bullying occurs when an individual or several other individuals:
- say mean and hurtful things or make fun of someone or call him or her mean and hurtful names.
- completely ignore or exclude someone from their group of friends or leave him or her out of things on purpose.
- tell lies or spread false rumors about him or her or send mean notes and try to make other people dislike him or her.
- say or do other hurtful things.

It is not bullying when the teasing is done in a friendly and playful way. Also, it is not bullying when two individuals of about equal strength or power argue or fight.

Here are some questions about being cyberbullied. When we say "cyberbullied," we mean bullied through email, Facebook, text messaging, instant messaging, on Skype or video chat, in a chat room, or on a website.

 (1 = *not at all*; 5 = *several times a week*)
1. How often have you been bullied over the past three months?
2. How often have you taken part in bullying someone else over the past three months?
3. How often have you been cyber bullied over the past three months?
4. I was bullied through instant messaging.
5. I was bullied through a text message sent to my cell phone.
6. I was bullied in an online chat room.
7. I was bullied on a Social Networking Site (such as Facebook)
8. I was bullied on another type of website.
9. I was bullied through an email message.
10. I was bullied in another way (please indicate)
11. In the past three months, have you been cyber bullied by:
       a. A sibling (yes/no)
       b. A friend (yes/no)
       c. Another student (yes/no)
       d. A stranger (yes/no)
       e. Someone else (yes/no)

12. If you have been cyber bullied in the past couple of months, have you told anyone about what happened? (Yes, No, I haven't been cyber bullied,)
13. If yes, who did you tell (yes/no)
       a. A parent of guardian
       b. A professor
       c. Another staff member at school
       d. A sibling
       e. A friend
       f. Someone else (indicate who)
14. How often have you cyber bullied someone else over the past three months? (1 = not at all, 5 = several times a week)
15. How often have you witnessed someone else being cyber bullied over the past three months? (1 = not at all, 5 = several times a week)
16. How often have you heard about someone being cyber bullied in the past couple of months? (1 = not at all, 5 = several times a week)

Psychological Closeness
 (Vangelisti & Caughlin, 1997)
Please indicate the degree to which you agree with each of the following statements regarding your relationship with the (victim/bully) using the scale below. (1 = *not at all*, 7 = *very much*)
1. How close are you to this person?
2. How often do you talk about personal things with this person?
3. How satisfied are you with your relationship with this person?
4. How important is your relationship with this person?
5. How much do you like this person?
6. How important is this person's opinion to you?
7. How much do you enjoy spending time with this person?

Social Support
(Xu & Burleson, 2001)
For each of the numbered items below, please indicate on the supplied answer sheet how much of each behavior you provided to the victim following the incident. (1 = *not at all*; 5 = *a great deal*).

Emotional Support
1. Told them that they are important to me and I fee close to them.
2. Expressed understanding that the situation is bothering them, or disclosing a similar situation that I have experienced before
3. Comforting them by showing some physical affection (including hugs, shoulder patting, etc.)

4. Promised to keep the problems we discussed in confidence
5. Providing them with hope or confidence
6. Expressed sorrow or regret for their situation or distress
7. Offered attentive comments

Esteem Support
1. Expressed esteem or respect for a competency or personal quality of theirs
2. Telling them that they are still a good person
3. Tried to reduce their feelings of guilt about the situation
4. Asserted that they will have a better future than most people will
5. Expressed agreement with their perspective on various situations
6. Told them that a lot of people enjoy being with them
7. Assured you that they are a worthwhile person

Network Support
1. Offered to provide them with access to new companions
2. Offered to do things with them and have a good time together
3. Connected them with people whom they may turn to for help
4. Connected them with people whom they can confide in
5. Reminded them of the availability of companions who share similar interests or experiences with them
6. Offered to spend time with them to get your mind off the situation (chatting, having dinner together, going to a concert, etc.)
7. Helping them find the people who can assist them with things

Bystander behavior
(Salmivalli & Voeten, 2004).

Please indicate the degree to which you agree with each of the following statements regarding your behavior following the incident. (1 = *strongly disagree*, 7 = *strongly agree*)

Assistant Scale
1. I joined in with the perpetrator
2. I assisted the perpetrator
3. I helped the perpetrator

Reinforcer Scale
1. I observed the situation
2. I laughed at the situation
3. I incited the perpetrator in some way by encouraging them to continue the behavior

Defender Scale
1. I comforted the victim
2. I told the perpetrator to stop their behavior
3. I told the perpetrator and possibly others who had joined in to stop their behavior.

The Outsider Scale
1. I removed myself from the situation
2. I stayed outside the situation.
3. I didn't take sides with either party

Depersonalization

Please indicate the degree to which you agree with each of the following statements. (1 = *strongly disagree*, 7 = *strongly agree*)

During the incident, I had the feeling that other people, including the victim, the perpetrator, and/or other witnesses….

1. were aware of me
2. knew I was there
3. recognized my presence
4. could see that I was online

Believability
(Kearney et al., 1988)
The above scenario was:
Unbelievable _ _ _ _ _ _ _ Believable
Unlikely to happen _ _ _ _ _ _ _ Likely to happen
Easy to imagine _ _ _ _ _ _ _ Hard to Imagine

Degree of Hurt
 (Vangelisti & Young, 2000)

Thinking about the victim in the above scenario, the situation:
Was not at all hurtful_ _ _ _ _ _ _ Was extremely hurtful
Caused no emotional pain _ _ _ _ _ _ _ Caused intense emotional pain
Did not hurt the victim at all _ _ _ _ _ _ _ Hurt the victim quite a bit
Was not very severe _ _ _ _ _ _ _ Was very severe
Was not very serious _ _ _ _ _ _ _ Was very serious

Does the scenario constitute Cyberbullying?

Please indicate the extent to which you agree with each of the following statements: (1 = *strongly disagree,* 7 = *strongly agree*)

The above scenario is an example of cyberbullying.
Based on the definition above, the scenario could be classified as an instance of cyberbullying.

SCENARIOS USED IN PILOT STUDY

Scenario #1: Breakup "Drama"

Female:

Your good friend Jane and her ex-boyfriend Steve are currently going through a bitter breakup. You login to Facebook and notice that Steve has posted several nasty, mean comments on Jane's wall/timeline. He also posted an embarrassing picture of Jane passed out drunk, with a caption that says, "bitch". 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 comments.

Male:

Your good friend Steve and his ex-girlfriend Jane are currently going through a bitter breakup. You login to Facebook and notice that Jane has posted several nasty, mean comments on Steve's wall/timeline. She also posted an embarrassing picture of Steve passed out drunk, with a caption that says, "bastard". 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 comments.

Scenario #2: Burn Page

Female:

You login to your Facebook account and notice someone has created a "burn/bash" page about Jane, a good friend of yours. The page includes several inappropriate pictures of Jane, including a picture of her passed out drunk. The page also includes several mean comments about her, including calling her a "bitch" and calling her ugly. You look down at the chat box, and notice that you are logged into chat and Jane is online. Jane has only about 170 friends, so it is not likely that many other people have noticed the burn page.

Male:
You login to your Facebook account and notice someone has created a "burn/bash" page about Steve, a good friend of yours. The page includes several inappropriate pictures of Steve and several mean comments about him, including calling him a "bastard" and calling him ugly. You look down at the chat box, and notice that you are logged into chat and Steve is online. Steve has only about 170 friends, so it is not likely that many other people have noticed the burn page.

Scenario #3: Hacking

Female:
You login 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 login 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.

FINAL STUDY 2 SCENARIO (BOLD INDICATES MANIPULATIONS):
Female:

You login to your Facebook account, and you notice that your (**good friend/acquaintance**) 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/you are not logged into chat and Jane is not online**). (**Jane has about 1,900 Facebook friends, so it is likely that many other people have noticed the status updates and pictures/Jane has only about 170 Facebook friends, so it is likely that not many other people have noticed the status updates and pictures**).

Male:

You login to your Facebook account, and you notice that your (**good friend/acquaintance**) 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/you are not logged into chat and Steve is not online**). (**Steve has about 1,900 Facebook friends, so it is likely that many other people have noticed the status updates and pictures/Steve has only about 170 Facebook friends, so it is not likely that many other people have noticed the status updates and pictures**).

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