



# How do victims react to cyberbullying on social networking sites? The influence of previous cyberbullying victimization experiences



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## ABSTRACT

This study investigated how teenagers' past victim experiences might influence their bystander behaviors when teenagers witness cyberbullying on social networking sites (SNSs). An analysis of 622 teenage SNS users' responses in the Pew Internet Survey showed that at least 16.6% of the teenagers had previously been cyberbullied on SNSs. Those who had been victims of cyberbullying reported more antisocial reaction strategies than nonvictims. Meanwhile, girls were more likely to perform prosocial bystander behaviors, whereas boys tended to behave more antisocially. Girls who had been cyberbullied claimed to adopt more prosocial bystander behaviors than male victims. Teenagers who had more online social interactions had more prosocial bystander reactions, compared to those who interacted less online. Empathy and reciprocity were discussed as the mechanisms for teenagers' prosocial and antisocial reaction strategies.

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## 1. Introduction

Cyberbullying, a significant public health issue, has attracted the attention of scholars since this issue occurs frequently and may cause victims emotional distress and lower their self-esteem (e.g., Aricak et al., 2008; Campbell, 2005; David-Ferdon & Hertz, 2007; Hamby & Finkelhor, 2000; Tokunaga, 2010; Ybarra, 2004). In particular, since social networking sites (SNSs) are a popular platform for teenagers to express themselves and to socialize with others (Barker, 2009; Livingstone, 2008; Pfeil, Arjan, & Zaphiris, 2009), cyberbullying occurs frequently on these platforms (e.g., Dredge, Gleeson, & de la Piedad Garcia, 2014a, 2014b; O'Dea & Campbell, 2012). Recent research has shown that heavy SNS users are more likely to encounter cyberbullying and be affected by insulting messages (Kwan & Skoric, 2013). Bystander behaviors have been emphasized on SNSs, as bystanders or witnesses appear to be a large group involved in cyberbullying (Bastiaensens et al., 2014; Lenhart et al., 2011). Scholars have discovered that bystanders may contribute to the bullying frequency by participating in the aggression and directing the ongoing situation in a more harmful or antisocial direction or ameliorate the victimization by defending the victims, leading the hostile behaviors in a helpful or prosocial direction (Rigby & Johnson, 2006; Salmivalli,

Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996; Twemlow, Fonagy, & Sacco, 2004). The determinants of bystanders' behaviors have long been investigated; however, to our knowledge, the role of previous victimization experiences in teenagers' bystander behaviors has not been thoroughly examined.

The aim of this study is thus to investigate how victimization behaviors may influence teenagers' reaction strategies when the teenagers witness others cyberbullying on SNSs. Insights from different perspectives provide inconsistent predictions. The similarity between cyberbullying situations may trigger teenagers' resentment from previous victimization experiences, and increase their likelihood of harming others. However, since victims can better empathize on the potential suffering than nonvictims, the victimization experience may lead to teenagers saving others from being hurt. These two lines of thoughts are at odds. Therefore, in this study we empirically predicted previous victims' bystander reaction strategies. The findings have implications for providing psychological support for cyberbullying victims.

## 2. Literature review

### 2.1. Cyberbullying

Cyberbullying, a term coined by Belsey (2005), is defined as an individual or a group intentionally and repeatedly using electronic devices or technologies to conduct hostile or aggressive behaviors. Cyberbullying is also considered "a way of emotionally distressing

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somebody over technology,” according to a recent study from teenagers’ perspectives (Bowler, Knobel, & Mattern, 2015). Cyberbullying, similar to its offline version, often presents as mean and cruel behaviors. The most common cyberbullying behaviors include spreading rumors, revealing personal information or photos without permission, sending threatening messages, and publicly making fun of someone (e.g., Baas, De Jong, & Drossaert, 2013; Chang et al., 2013; Wang, Nansel, & Iannotti, 2011).

Studies have indicated that cyberbullying is a significant issue for teenagers all around the world (Kraft, 2006), although the prevalence in different countries varies. For example, in the United States, Patchin and Hinduja (2010) investigated 1963 students and found that nearly 30% of the respondents had been victims of certain forms of cyberbullying two or more times within the previous 30 days. Similarly, a study conducted with a Turkish population showed that 27% of the 372 participating students had been victims of cyberbullying (Arslan, Savaser, Hallett, & Balci, 2012). Brewer and Kerlake (2015) found that 16.22% of British adolescents aged between 16 and 18 reported being cyberbullied more than once during the previous six months.

Studies have also shown that cyberbullying on SNSs is not uncommon. Wiederhold and Riva conducted an online survey to examine the relationship between SNS use and cyberbullying. Of the 400 participants, SNS users reported a significantly higher frequency of having experienced cyberbullying compared to nonusers. In addition, a recent study showed that 67.4% of respondents ( $N = 808$ ) witnessed cyberbullying behaviors on SNSs (Van Cleemput, Vandebosch, & Pabian, 2014).

In cyberbullying, victims, bullies, and bystanders are the main actors (Mishna, Houry-Kassabri, Gadalla, & Daciuk, 2012). Among them, cyberbullying victims have attracted broad scholarly attention, as victimization experiences have been found to be associated with damaging outcomes (e.g., Campbell, 2005; David-Ferdon & Hertz, 2007; Tokunaga, 2010). Victims often suffer from undesirable psychosocial consequences (Ttofi & Farrington, 2008), such as frustration, depression, and fear (e.g., Aricak et al., 2008; Campbell, 2005; Tokunaga, 2010). More seriously, a growing number of teenagers have committed suicide after being cyberbullied (e.g., Alvarez, 2013). Studies also indicated that the role of bystanders in cyberbullying should not be ignored (DeSmet et al., 2013). Due to the large population of users and prevalence of cyberbullying on SNSs, previous cyberbullying victims often find themselves in the position of bystanders.

## 2.2. Bystander behaviors in cyberbullying situations

Bystander behavior refers to the action an individual adopts when he or she sees or hears a problematic or emergency situation (Banyard, 2008). The term emphasizes an individual’s position as a witness to a special situation, instead of someone who is involved. In line with the literature on offline bullying, bystanders are important actors, as their reactions may either enhance or attenuate the harmful behaviors (DeSmet et al., 2013; Twemlow et al., 2004). In offline settings, when witnessing an aggressive behavior, bystanders’ roles can be generally divided into two categories: defenders, who stop the bullying behaviors, help victims, or ask for adults’ intervention (Pozzoli & Gini, 2010), and passive bystanders, who silently witness what is happening and ignore the ongoing bullying behavior (Obermann, 2011; Parris, Varjas, Meyers, & Cutts, 2012; Salmivalli et al., 1996). Bystanders seldom join in the bullying behaviors in traditional bullying situations; however, some studies have indicated that participation behaviors make cyberbullying very distinctive from offline bullying (Livingstone, Haddon, Görzig, & Ólafsson, 2011).

When cyberbullying occurs publicly on SNSs, four primary types of onlooker behaviors often occur (Carlo, Roesch, & Melby,

1998): telling the perpetrators to stop cyberbullying (prosocial), comforting the victims (prosocial), joining in the cyberbullying (antisocial), or just ignoring it (indifferent). Prosocial bystander behaviors refer to actions that are beneficial for victims and society as a whole, such as acting as a defender of victims and reporting the perpetrators; whereas antisocial behaviors may cause damage to others and the society, such as acting as reinforcers or cyberbully assistants (Salmivalli & Peets, 2009). Prosocial behaviors are the opposite of antisocial behaviors; however, the two types of behavior do not have to be mutually exclusive. A person is likely to perform prosocial and antisocial behaviors. Coping in a prosocial way often results from bystanders’ feeling sympathy for others, feeling guilty about the wrongdoing, and exercising self-control before doing something wrong (Barrett, 1998). In addition, studies have shown that altruism and empathy are fundamental drives or impulses for humans to behave prosocially (e.g., Twemlow et al., 2004). Although prosocial bystander behaviors sometimes require personal sacrifices, certain individual characteristics, situational factors, and psychological mechanisms often make the behaviors possible (Moore, Barresi, & Thompson, 1998). In contrast, antisocial bystander behaviors abet cyberbullies and strengthen the pain the victims suffer. Antisocial behaviors are labeled as deviance and contravene social norms or even violate laws (Ang & Goh, 2010). Although antisocial behaviors are socially undesirable, teenagers perform antisocial bystander behaviors for different reasons, such as, peer influence, violent TV viewing experiences, and leisure activities (Olweus, 1989).

## 2.3. Previous victimization experiences

Scholars have recognized multiple factors to predict individuals’ bystander behaviors (DeSmet et al., 2013), such as personality (Bollmer, Harris, & Milich, 2006), motivation (Michellini, Wilson, & Messé, 1975), religious faith (e.g., Hardy & Carlo, 2005), perceived efficacy, perceived source sufficiency (Roth & Cohen, 1986), and social cognitive skills (e.g., Dodge, 1980). However, little is known about the role of previous victimization experiences in teenagers’ prosocial or antisocial bystander behaviors (Carlo et al., 1998). People are always influenced by their previous experiences. Teenagers with previous victimization experiences tend to differ from nonvictims in behavioral trajectories (e.g., Hawker & Boulton, 2000; Storch & Ledley, 2005). Many studies have shown similar, if not more severe, psychological maladjustment for cyberbullying victims than traditional bullying. Victims often suffer psychosocial problems and affective disorders (e.g., Craig, 1998; Wang et al., 2011). Victimization might also lead to externalized hostility and delinquency (Tokunaga, 2010). In some serious cases, victims have reported carrying weapons on campus (Arseneault et al., 2006). Although cyberbullying, as an online form, might not lead to physical attacks, the psychological mechanism of taking revenge might be similar. Some scholars have suggested that teenage victims might tend to retaliate against others for what they have suffered, in order to make themselves feel more balanced (Katzer, Fetchenhauer, & Belschak, 2009; Tokunaga, 2010; Zajonc & Burnstein, 1965). Victims are less likely to participate in prosocial behaviors; instead, teenagers who have been cyberbullied may transfer what they have undergone to others, resulting in antisocial behaviors.

However, teenagers are apt to be more sympathetic if they have experienced unpleasant cybervictimization behaviors in the past. Some studies suggested that teenage cyberbullying victims were more likely to help other victims (e.g., Van Cleemput et al., 2014). Studies have also shown that people who were empathetic were likely to engage in prosocial behaviors (e.g., Ang & Goh, 2010; Brewer & Kerlake, 2015). In addition, individuals were also found to be more likely to help those who seem similar to them (e.g.,

Levine, Cassidy, Brazier, & Reicher, 2002) and those who have comparable experiences (Christy & Voigt, 1994). Following this rationale, teenage bystanders with victimization experiences are more likely to conduct prosocial reaction strategies when the teenagers witness cyberbullying behaviors on SNSs. Since both speculations are plausible, we propose the following question:

RQ: Will teenagers' previous cyberbullying victimization experiences lead to prosocial or antisocial reaction strategies when the teenagers witness cyberbullying on SNSs?

#### 2.4. Gender effect

Teenagers' bystander behaviors may differ according to gender (Cappadocia, Pepler, Cummings, & Craig, 2012). Many studies have suggested that female bystanders showed more positive attitudes toward victims (Gini, Pozzoli, Borghi, & Franzoni, 2008). For instance, O'Connell et al. (1999) reported that girls were more likely to defend victims than were boys. However, some empirical studies provided inconsistent findings on the relationship between gender and bystander behaviors (Rigby & Johnson, 2006). Studies by Macháčková, Dedkova, Sevcikova, and Cerna (2013) and Barlińska, Szuster, and Winiewski (2013) indicated that gender was not a significant predictor of prosocial or antisocial bystander behaviors.

Nevertheless, a meta-analysis by Eagly and Crowley (1986) showed that men were more likely to provide help in an emergency or dangerous situation, while women were more likely to help in safer situations. Social role theory indicates that socialization shapes teenagers' behaviors differently in terms of gender. Gender differentiated the teenagers' obligations and characteristic requirements (Eisenberg & Lennon, 1983). For example, women's consideration for others is often associated with their altruism and thus leads to prosocial behaviors (Larsen, 2014; Underwood & Moore, 1982). In contrast, men generally are more aggressive and likely to become angry than their female counterparts (e.g., Ang & Goh, 2010; Cowie, 2000; Zahn-Waxler, Cole, Welsh, & Fox, 1995).

More interestingly, Batson et al. (1996) also found that women reported more sympathy with a same-sex teenager when they had similar experiences during their adolescence; such a relationship did not appear in men. In addition, studies have shown that negative peer influences were significantly stronger in boys, whereas positive peer influences were stronger in girls (Ma, Shek, Cheung, & Lee, 1996). These findings showed that girls were likely to act prosocially when they shared feelings with others who were suffering. However, boys tended to act antisocially if they had been treated badly. Thus, we formulate the following hypotheses:

**H1.** Gender predicts teenage bystanders' reaction strategies, such that (a) girls tend to engage in more prosocial behaviors than boys and (b) boys tend to engage in more antisocial behaviors than girls, when they witness cyberbullying on SNSs.

**H2.** The effects of previous cyberbullying victimization experiences on teenager bystanders' reaction strategies are moderated by gender, such that (a) girls who have been cyberbullied tend to engage in more prosocial behaviors, while (b) boys who have been cyberbullied tend to engage in more antisocial behaviors, when they witness cyberbullying on SNSs.

#### 2.5. Online social interaction

For teenagers, during the process of socialization, peers play a vital role as social references and sources of approval. Through online social interactions, teenagers feel that they are surrounded by friends; this helps them to maintain regular positive

self-evaluation and overcome depressions (e.g., Barry & Wentzel, 2006; Cohen & Wills, 1985). In particular, teens often use SNSs to develop intimate relationships (Lambert, 2013). Many studies have shown that teenagers acquire more emotional support, a sense of belonging, and peer acceptance from the use of SNSs (e.g., Riger & Lavrakas, 1981; Roskamp, 2009). More importantly, the enhanced social bonds and strong attachments among friends were often found to be associated with prosocial behaviors (e.g., Barry & Wentzel, 2006; Estrada, 1995). Thus, frequent online interaction is likely to increase teenagers' prosocial behaviors. However, although online interaction could be conducive to more prosocial behaviors, it does not necessarily decrease antisocial behaviors (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007). Some studies indicated that a lack of positive interactions with friends was not correlated with antisocial behaviors but was related to the presence of bossiness and coercive behaviors (Dishion, Andrews, & Crosby, 1995). Since deviant behaviors often occur for various reasons (Dishion, Patterson, Stoolmiller, & Skinner, 1991), especially under certain extreme situations, it may be difficult to draw a clear relationship between online interactions and antisocial behaviors.

Victimization is strongly related to depression and frustration (Hawker & Boulton, 2000). For teenagers who have been victims, friends' support was often regarded as a good cure for depression and frustration (Feldman, Rubenstein, & Rubin, 1988). Studies on traditional bully-victims revealed that the impact of being bullied might depend on whether individuals received enough social support and emotional comfort from others (e.g., Gradinger, Strohmeier, & Spiel, 2009). For these teenage victims, frequent online social interactions with friends were likely to facilitate their psychological adjustment and exert a positive influence. Social support and life satisfaction via online social interaction could prevent teenagers from engaging in aggressive behavior or harassment of others (e.g., Davidson & Demaray, 2007; Demaray & Malecki, 2003). However, without intimate online social support from friends, maladaptation and isolation from peers were likely to exacerbate victimization experiences, resulting in increased offending behaviors (Espinoza, Gonzales, & Fuligni, 2013; Thomas, 2013). Thus, we propose the following hypotheses:

**H3.** Online social interactions predict bystanders' reaction strategies, such that online social interactions with friends have (a) a positive effect on teenagers' prosocial reaction strategies and (b) no effect on teenagers' antisocial behaviors.

**H4.** Online social interactions moderate the relationship between teenagers' victimization experiences and their reaction strategies, such that online social interactions with friends (a) positively predict their prosocial behaviors but (b) negatively predict their antisocial behaviors.

### 3. Method

#### 3.1. Sampling

Data for the current analysis were obtained from the Pew Internet and American Life Project's Teens and Online Behavior survey. The data were collected from April 19 to July 14, 2011, and the survey was administered by landline and cell phone in English and Spanish. A total of 779 respondents aged between 12 and 17 years participated in the survey. We excluded 157 respondents from the current analysis because they were not SNS users. Our sample ( $N = 622$ ) included 288 (46.3%) boys and 334 (53.7%) girls, with an average age of 15.

### 3.2. Measures

**Previous victimization experience.** Previous experience was measured directly by asking about teenagers' experience of being cyberbullied within the past 12 months through an SNS. Respondents could answer either "yes" or "no" to report their previous cyberbullied experience. For regression analysis, contrast coding of previous experience was used (.5 = yes; −.5 = no).

**Gender.** Gender referred to teenagers' sex as either *male* (.5) or *a female* (−.5).

**Online social interactions.** Online social interactions were measured with six items. The question was, "Have you ever engaged in the following activities on an SNS?" The possible responses were "Yes/No" to the following questions: (a) "Post comments about something a friend has posted," (b) "Send private messages to a friend," (c) "Send instant messages to or chat with a friend," (d) "Tag people in posts, photos, or videos," (e) "Post a status update," or (f) "Post a photo or video." These categorical items were summed to represent the teenagers' activeness on SNSs. The internal consistency of this scale was acceptable (Cronbach's alpha = .713), with the scores ranging from 0 to 6 for further analyses.

**Bystander behavior toward cyberbullying.** Teenagers' bystander behaviors were divided into prosocial and antisocial behaviors. Participants were asked, "When people act mean or cruel on social networking sites, how often have you (1) told the person to stop being mean or cruel?, (2) defended the victim who is being harassed?, and (3) joined in the harassment?" Items were scored on a 4-point Likert scale as follows: 1 = *frequently*, 2 = *sometimes*, 3 = *once in a while*, and 4 = *never*. From face validity, scores on the first two items were subsequently summed up and then divided by 2 ( $r = .645, p < .001$ ) to present the prosocial bystander behavior. All scales were coded such that higher scores indicated a higher tendency toward certain behaviors.

**Control variables.** Past studies suggested that teenagers' age (e.g., Smith, Mahdavi, Carvalho, & Tippett, 2006), family income (e.g., Festl & Quandt, 2013), and time spent on SNSs (Brandtzæg, Staksrud, Hagen, & Wold, 2009) might influence the likelihood of being cyberbullied and forming reaction strategies. SNS use was measured with a general question: "How often do you visit social networking sites?" Respondents responded on a 6-point scale, ranging from 1 (*several times a day*) to 5 (*every few weeks*) and 6 (*less often*). These variables were controlled in this study.

## 4. Results

The descriptive outcome revealed that 16.6% of the teenagers had previous experience of being cyberbullied on an SNS. The teenagers reported much more prosocial ( $M = 2.64, SD = .94$ ) than antisocial ( $M = 1.29, SD = .63$ ) bystander behaviors. The paired-sample  $t$ -test showed a significant difference between prosocial and antisocial reaction strategies,  $t(550) = 29.18, p < .001$ . Respondents were active in online social interactions with friends ( $M = 4.95, SD = 1.44$ ).

Two ordinary least squares (OLS) regressions were used to examine the research question and test the hypotheses for prosocial and antisocial bystander behaviors, respectively (see Table 1). Control variables (e.g., age, family income, SNS use) were entered in Block 1; independent variables, including gender, previous victimization experience, and online social interaction, were added in Block 2. Interaction between previous victimization experience with gender and online social interaction were entered in Block 3. Among the models, the main model (Model 2) and the interaction model (Model 3) were significant; especially the overall model fits of Model 3 were acceptable, at  $R^2 = .054, F(8,484) = 3.48,$

**Table 1**

The OLS regression coefficient for predicting teenage bystanders' behaviors.

	Prosocial reactions			Antisocial reactions		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Age	.021	.028	.023	.010	.018	.020
Family income	−.015	−.034	−.031	−.112*	−.122**	−.123**
SNS usage	.014	−.034	−.046	.057	.049	.050
Gender (G)		.138**	.221***		−.103*	−.066
Previous experience (PE)		.113*	.084		.142**	.142**
Online social interaction (SI)		.087	.158*		.048	.016
PE × G			.122*			.062
PE × SI			.092			−.053
R <sup>2</sup>	.001	.042**	.054***	.015	.047**	.051**
Adjusted R <sup>2</sup>	−.005	.030**	.039***	.009	.035**	.035**

Notes: Entries are standardized regression coefficients. Model 1 includes control variables, Model 2 is the main effect model, and Model 3 represents the interaction model.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

$p = .001$  for the prosocial bystander behaviors and  $R^2 = .051, F(8,488) = 3.27, p = .001$  for the antisocial bystander behaviors.

To answer the research question, results showed that previous cyberbullying experiences were a significant predictor ( $\beta = .142, p < .01$ ) of antisocial behaviors rather than prosocial behaviors ( $\beta = .084, p = .067$ ). This suggests that the chance to become engaged in antisocial bystander behaviors increased for teenagers who had been cyberbullying victims.

Our findings also revealed that gender positively predicted prosocial bystander behaviors in the main model ( $\beta = .113, p < .01$ ) and the interaction model ( $\beta = .221, p < .001$ ). Girls were more likely to engage in prosocial reactions than boys. For antisocial bystander behaviors, gender exerted a negative influence in the main model. Boys performed more antisocial bystander behaviors than girls ( $\beta = −.103, p < .05$ ), although this relationship diminished in the interaction model ( $\beta = −.066, n.s.$ ). Thus, in terms of the relationship between gender and prosocial and antisocial bystander behaviors, H1a and H1b were supported.

The interaction between gender and previous experiences positively predicted prosocial behaviors ( $\beta = .122, p < .05$ ), suggesting that girls who had been cyberbullied engaged in more prosocial behaviors than boys who had been cyberbullying victims. However, the moderation effect of gender and previous experiences on antisocial behaviors was not significant, such that no gender difference was found in relation to the cyberbullying victims' antisocial behaviors. Therefore, H2a was supported, whereas H2b was rejected.

Online social interactions were found to positively predict prosocial bystander behaviors ( $\beta = .158, p < .05$ ), while no evidence supported the association between social interactions and antisocial behaviors. Thus, H3a and H3b were supported. However, the proposed role of online social interactions as a moderator in the relationship of prior experiences as cyberbullying victims and bystander behaviors was not significant in either the prosocial or antisocial reaction strategies. Thus, H4a and H4b were rejected.

## 5. Discussion

While previous studies on cyberbullying focused mostly on victims' emotional distress, this study explored teenagers' bystander behaviors when they witness cyberbullying on SNSs. Our

investigation into teenagers' behavioral intentions after being traumatized revealed that the victimization experience served as a significant predictor of bystanders' antisocial reaction strategies. Specifically, in line with previous studies (e.g., Brewer & Kerslake, 2015; Livingstone et al., 2011), our analysis demonstrated the prevalence of cyberbullying and showed that every one in six teenagers surveyed had been cyberbullied on SNSs. Teenage bystanders who had been cyberbullied reported more antisocial behaviors than those who did not have similar experiences. Girls were more likely to conduct prosocial bystander behaviors, whereas boys tended to carry out more antisocial bystander behaviors. Moreover, girls who had experienced cyberbullying tended to engage in more prosocial bystander behaviors when they witnessed cyberbullying on SNSs than did boys.

Our findings suggested that teenagers who had been cyberbullied would be triggered by previous experiences and act aggressively. According to the reciprocity principle (Gouldner, 1960), the principle of doing to others as they do to you, teenagers are likely to react with aggression if they have been treated badly by others. Negative reciprocity likely explains how previous cyberbullying victim experience influences teens' behavioral intention (Heirman & Walrave, 2012). Meanwhile, the outcome also indicated that cyberbullying victims were highly likely to become perpetrators (Menesini, Modena, & Tani, 2009; Völlink, Bolman, Dehue, & Jacobs, 2013). In traditional bullying studies, the category of bully–victims represented the smallest and most vulnerable group of children; however, recent studies showed that cyberbully–victims have become popular in the digital era (Mishna et al., 2012; Solberg, Olweus, & Endresen, 2007). The overlapping roles between a “cyberbully” and a “victim” readily form a vicious cycle; and more studies should explore how to intervene in the cyberbully–victim continuum (Skinner & Kowalski, 2013). In addition, some qualitative studies provide insights in explaining the relationship between victimization and bystander behaviors as discovered in this study (e.g., Mishna, Saini, & Solomon, 2009; Vandebosch & Van Cleemput, 2008). For instance, there may be a difference between teenagers' behavioral intention and the perception of those behaviors by the receivers (Vandebosch & Van Cleemput, 2008). What the perpetrators consider as an innocent joke sometimes might be perceived as an aggressive attack by the victims (Mishna et al., 2009). It is suggested that victims' perceptions would influence the severity of cyberbullying behaviors (Ševčíková, Šmahel, & Otavová, 2012), and thus also affect whether the victimization leads to future prosocial or antisocial bystander behaviors.

This study also confirmed existing literature in that gender made a difference in reaction strategies concerning cyberbullying. Girls engaged in more prosocial bystander behaviors than boys (e.g., Ang & Goh, 2010; Toussaint & Webb, 2005), and boys were more likely to behave antisocially. In particular, female victims reported more prosocial reaction strategies than male victims. It is likely that empathy played a role in the girls' reaction strategies. Brewer and Kerslake (2015) indicated that when empathy increased, the likelihood of cyberbullying perpetration might decrease. Girls generally had more empathy than boys, allowing them to feel and experience other persons' emotions and thoughts more perceptively (Eagly & Crowley, 1986; Eisenberg & Lennon, 1983). Therefore, it is likely that girls' embedded empathetic feelings render them able to confront cyberbullying in a prosocial way. Moreover, this study calls for attention to those cyberbullying victims, particularly those male victims who tend to perform in a less prosocial way. Even though prior research showed that young, inexperienced users, and girls were vulnerable and frequent targets of cyberbullying (Vandebosch & Van Cleemput, 2008; Ševčíková et al., 2012), girls and boys did not report significantly different victimization experiences in the present study. We thus suggest

educators and policy makers not to overlook male teenagers' victimization experiences as their behavioral intentions tend to be less prosocial, and could pose a problem for the society.

However, to our surprise, no significant differences were found between boys and girls in moderating the effect of previous victimization experience on bystanders' antisocial behaviors. Cyberbullying behaviors included overt, physical, and relational aggression (Crick & Grotpeter, 1995; Prinstein, Boergers, & Vernberg, 2001). In particular, relational aggression, such as spreading rumors, was extremely prevalent online, and often occurred between girls (Topçu, Erdur-Baker, & Capa-Aydin, 2008; Venkatesh, 1998). When girls had gossiped about or been relationally harassed by others, the possibilities for them to join in new gossip would increase. Several self-reports on delinquency indicated that sometimes girls' antisocial behaviors were similar in severity but different in quality or types, compared to those of boys (e.g., Pajer, 1998; Wang, Iannotti, & Nansel, 2009). Thus, taken together, girls who have been cyberbullied were likely to engage in prosocial and antisocial behaviors. Future studies should explore other influencing factors, such as the types of victims (passive/submissive or provocative victims; see Olweus, 1993) and situations involved in cyberbullying (relational or overt aggression; see Wang et al., 2009), in order to delve further into the mechanism underlying the behaviors of cyberbullied girls.

This study revealed that teenagers' online social interactions positively predicted their prosocial reaction strategies. It appeared that teens' emotional support from and attachments with peers via online social interactions had a direct relationship with their prosocial behaviors (Wentzel & McNamara, 1999). However, the moderation effect of online social interaction was not supported. It was likely that the teenagers were traumatized by their past victimization experience and the online social interaction process did not help them recover. Victims often suffer greater psychological disturbance than nonvictims, and recalling victimization experience on SNSs results in psychological distress (Hawker & Boulton, 2000). In addition, many cybervictims choose not to tell others about their story during social interactions (Smith et al., 2008), or when victims turn to their friends for help, peers might not take their victimization experience seriously (Slonje & Smith, 2008). Therefore, it is understandable that online social interactions might not influence teenage victims to act in a prosocial or antisocial way (Parris et al., 2012).

More importantly, bystander behaviors in online situations are quite different from those in the offline setting. The lack of nonverbal cues online makes bystanders unable to judge whether a victim requires help. The unique cyberspace might influence bystander behaviors in terms of the number of cues transferred, the size of the audience, and synchronous versus asynchronous communication (Van Cleemput et al., 2014). These characteristics of the online platform might not only desensitize the perpetrator but also attenuate the presentation of victims' sufferings. Because of the absence of cues, moral values and social norms are less likely to be salient, and thus lead to the prevalence of moral disengagement attitudes on SNSs (DeSmet et al., 2013). In the offline setting, studies have indicated that the majority of school children would intervene to help the victim when they witnessed a bullying behavior (Boulton & Underwood, 1992; Rigby, 2007) and witnessing victims receiving maltreatment would partly increase their responsibility to provide help (Gini et al., 2008). However, for cyberbullying on SNSs, the perceived responsibility of intervention largely decreased, and indifference or ignorance became the most popular reactive behaviors on SNSs. The lack of cues might impede the creation of a supportive environment to defend victims, which makes unconcerned reaction strategies rampant in online situations (DeSmet et al., 2013). Although in this study indifference was considered neither a prosocial nor an antisocial behavior, indifference

in cyberbullying interventions deserves extensive studies in the future.

This study has several limitations. Firstly, we did not take into account the situation that the cybervictims in this study may have been perpetrators and had engaged in cyberbullying behavior before. Teenagers who have been traditional bullies or cyberbullies are more likely to cyberbully others. Although whether teenagers have ever cyberbullied others was not a theoretical concern in this study, it may influence teenage bystanders' coping strategies in several ways (e.g., Völlink et al., 2013). For instance, joining in the harassment may have become a habitual behavior for the teenager. Secondly, we regarded previous victimization experiences as a categorical variable but may have ignored the magnitude, frequency, and depth of the experience. Being victimized repeatedly over time may make teenagers feel bad about themselves, causing them to become vulnerable to cyberbullying (e.g., Beaty & Alexeyev, 2008). Moreover, instead of seeing cyberbullying as an outcome of individual differences in dyads, there is a trend to consider cyberbullying largely in relation to the social or group context in which the bullying occurs (O'Connell et al., 1999; Rigby & Johnson, 2006). A focus group study indicated that bystander behaviors heavily depended on contextual factors, rather than a fixed status (DeSmet et al., 2013). For instance, if the victim was considered an in-group member, and defending the victims had low moral disengagement, bystanders were more likely to offer help (DeSmet et al., 2013). Bystander behaviors may also be influenced by normative influence from peers, as well as attitude beliefs (Gini et al., 2008). These contextual factors are worth further investigations together with previous victimization experiences in future studies.

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