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How Previous Experiences of Being Cyberbullied Influence Teenagers’ Prosocial/Antisocial Reacting Strategies towards Cyberbullying in SNS?

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Abstract

Teenagers who have been cyberbullied may have more empathy towards other victims and conduct more prosocial behaviors, when confronted with other cyberbullying activities in SNS. However, according to reciprocity principle, teenagers who have been cyberbullied may also conduct what they have suffered to others, and hence lead to antisocial behaviors. This study focuses on how the teenagers’ experiences of being cyberbullied influence their prosocial/antisocial coping strategies in SNS, by taking gender, social interaction online and cognitive support from others into considerations.

Based on 622 teenage SNS users as respondents, the results revealed that teenagers who have been victims of cyberbullied directly reported to conduct more antisocial reacting strategies, and this revealed the possibility of transformation between perpetrators and victims. Nevertheless, young girl who have been cyberbullied tended to be more empathetic and reported to conduct more prosocial coping strategies than boys. In addition, teenagers’ social interaction online positively predict prosocial behavior, but failed to be a moderator in the relationship between prior experience and coping strategies; and cognitive support from others also hadn’t found to predict the coping strategies. At the end, what should be more effective ways to guide the teenage victims to be more prosocial were discussed.

Keywords: cyberbullying, coping strategy, gender, social support, victim
How Previous Experiences of Being Cyberbullied Influence Teenagers’ Prosocial / Antisocial Reacting Strategies towards Cyberbullying in SNS?

A great number of surveys have revealed that cyberbullying is a significant public health and psychological issue for young people (e.g., David-Ferdon & Hertz, 2007; Hamby & Finkelhor, 2000; Ybarra, 2004). Tons of studies shed light on perpetrators and victims of cyberbullying; however, researchers often focuses on either perpetrators or victims. Seldom of them care about the interaction and transformation between cyberbullies and victims, such that a teenager can be victim as well as perpetrator (bully-victims) or a teenager may become a perpetrator after being cyberbullied, etc. (e.g., Katzer, Fetchenhauer, & Belschak, 2009; Vandebosch & Van Cleemput, 2009). This study aims to explore the dynamic interaction within teenagers’ cyberbullying activities, especially how teenagers’ previous being bullied experience influence their coping strategies when they are confronted with other cyberbullying activities in social network site (SNS).

Previous experiences as victim of cyberbullying may have different impacts on teenagers. Most of the former studies emphasized that being a victim of cyberbullying predicted higher degrees of frustration and also lower degrees of self-esteem (Campbell, 2005; Aricak, et al, 2008; Tokunaga, 2010). However, from a behavioral approach, what will the previous being cyberbullied experiences lead to?

According to reciprocity principle (Gouldner, 1960) which indicates a principle of “doing unto others as they do to you”, teenagers are likely to return a mutual aggression if they received a cyberbullying from others. Hence, previous being cyberbullied experience will enhance teenagers’ possibility of transferring harms to others and conducting antisocial behaviors.
However, from the other perspective, a teenager would be more empathetic towards other victims if s/he had the experience of being cyberbullied. In line with cognitive empathy (Davis, 1980), people has the ability of taking others’ perspective, feeling and experiencing other person’s emotions and thoughts. Therefore, a teenager who has experienced the feeling of being cyberbullied may be able to perceive the possible detriments of cyberbullying, and more likely to conduct prosocial behaviors when facing other cyberbullying phenomena in SNS (Ang & Goh, 2010).

The two competing explanations of analysis provide unresolved questions for the current study: what is the actual role of previous experience as cyberbullying victim in teenagers’ coping strategies towards other cyberbullying activities in SNS? Will it lead to prosocial or antisocial coping? What are other factors that predict teenagers’ prosocial / antisocial reaction towards cyberbullying? This study attempts to elaborate the possible influencing factors and specify different conditions to predict teenagers’ prosocial or antisocial coping strategies towards cyberbullying.

**Literature Review**

**Cyberbullying**

Cyberbullying is coined by Bill Belsey, and it is defined as intentionally and repeatedly using electronic devices or technologies to conduct hostile/aggressive behaviors by an individual or group (Belsey, 2005; Hinduja & Patchin, 2008). The most common cyberbully behaviors include spreading rumors, revealing personal information/photos, calling nick names, and etc.

Numerous studies from different countries have reported that cyberbullying is an evident and notable issue for teenagers all around the world (Kraft, 2006). For example, in America, Patchin & Hinduja conducted a random sample of 1963 students from 30 middle schools, and
they found out that about 30% of the respondents had been a victim of some forms of
cyberbullying in 2007 (Patchin & Hinduja, 2010); and according to the European Kids Online
survey of 25 142 children ranging from 9 to 16 years old, about 2–14% of European children and
teens online have once been cyberbullied (Livingstone et al., 2011), etc.

Basically, there must be perpetrator(s) and victim(s) within cyberbullying activities.

Although people usually define a teenager who involved in cyberbullying as either perpetrator or
victim, several self-reported surveys have elaborately divided the role of teenagers into four
different types: “non-bully-victims,” “pure-victims,” “pure-bullies,” and “bully-victims” (Arcak,
2009). Among them, concerning teenagers’ reactive and proactive cyberbullying, bully-victims
were discovered to be the most aggressive group of all (Salmivalli & Nieminen, 2002). Bully-
victims indicate the interaction between bullying and being bullied, to wit, they are both the
recipients and perpetrators of bullying (Menesini, Modena, & Tani, 2009; Solberg, Olweus, &
Endresen, 2007). Ivarsson et al (2005) have reported that 38% of their respondents in the survey
were involved in bullying, and 9% of them were both bullies and victims. However, although
bully-victims have been mentioned in several literatures (Demaray & Malecki, 2003; Salmivalli
& Nieminen, 2002; Skinner & Kowalski, 2013; Vollink, Bolman, Dehue, & Jacobs, 2013), it still
hasn’t been enough explored by scholars yet. Salmivalli and Nieminen (2002) have found that
victims got higher scores than control teenagers on reactive aggression. Given the overlap roles
between ‘bully’ and ‘victim’, it is highly possible that a teenagers’ previous being bullied
experience may possibly lead to more aggressive coping strategies towards cyberbullying in the
future (Price & Dalgleish, 2010).

Coping Strategies towards Cyberbullying
Coping is often defined as adopting cognitive and behavioral efforts to mitigate and control the troublesome events (Cole, Treadwell, Dosani, & Frederickson, 2013; Lazarus & Folkman, 1984). Due to the negative impacts on mental health caused by cyberbullying, it is evident that it requires useful coping strategies.

Former studies have proposed several models and terms to summarize teenagers’ coping strategies of cyberbullying. For example, Parris, Varjas, Meyers & Cutts (2012) raised three coping themes, including reactive coping, preventive coping, and having no way to coping. Reactive coping is to directly delete or ignore messages and try to avoid the cyberbullying situations; and preventive coping strategies is to stop the cyberbullying activities and minimize the similar things happen again through talking to the perpetrators; while avoidance strategy happened when teenagers felt that there was no way to get rid of it (Parris, Varjas, Meyers & Cutts, 2012). In addition, several classical coping models in tradition bullying can also be applied to cyberbullying, such as approach-avoidance model proposed by Roth and Cohen in 1986 and the transactional model raised by Lazarus and Folkman in 1984.

**Cyberbullying and Reacting Strategies in SNS**

The former mentioned models focus on teenagers themselves as the victims; however, there are many situations that teenagers are confronted with cyberbullying activities related to others in Social Network Site.

Cyberbullying is prevalent in social network site. According to the survey of Pew Internet Project in 2006, social network users reported more online bullying than the non-users, such that 39% of SNS users have had experience of cyberbullying. Wiederhold and Riva (2012) also conducted an online survey examining the relationship between online social network and the
experience of cyberbullying. Of the 400 participants, users of SNS reported significantly higher frequency of cyberbullying compared with the non-users.

When cyberbullying activities happened publicly in SNS, similar as the former coping strategies, teenagers’ specific reacting actions towards other cyberbullying activities are no more than four types: telling the perpetrators to stop cyberbullying, comforting the victims, joining the cyberbullying or just ignoring it. To put it more simply, teenagers’ reacting behaviors can be divided into prosocial (the former two types), antisocial behaviors (the third type) and indifference. Although indifference towards cyberbullying is also an important phenomenon of teenagers’ coping strategy, it is beyond the scope of this study, which tends to focus on two more obvious and competing behaviors. ii

Prosocial behavior refers to the actions that are beneficial for people and society as a whole, while antisocial may cause damage to others and the society. Coping prosocially comes from guilt-feeling about wrongdoing, self-control before doing something wrong, and feeling sympathy for others (Barrett, 1998). Even though several prosocial behaviors require personal sacrifice, studies have found that individual differences, environmental variables and psychological mechanisms often make them possible (Moore, Barresi & Thompson, 1998). On the contrary, antisocial copings are labeled as deviant behaviors, and against social norms, or even violate laws (Ang & Goh, 2010). Antisocial behavior has been found to be associated with child’s temperament, peer influences, violent TV viewing and even leisure activities, etc. (e.g., Olweus, 1989). More importantly, teenagers’ bullying / cyberbullying behaviors are under numerous scholars’ concerns, as such kinds of behavior may not only cause immediate impair to the victims, but also may lead to further and more serious antisocial behaviors.

Previous Experience, Reciprocity and Empathy
Previous studies found that several factors predicted teenagers’ choice of reacting strategies towards cyberbullying. Perceived control of the situation, perceived efficacy and perceived source sufficiency had positive effect in teenagers’ adopting approaching strategies; otherwise, teenagers tend to take an avoidance approach towards cyberbullying (Roth & Cohen, 1986). In addition, some studies linked many constructs to predict prosocial and antisocial behaviors, such as socially cognitive skills (e.g., Dodge, 1980); responding patterns (e.g., Estrada, 1995), emotional attachment (e.g., Eberly, Montemayor & Flannery, 1993) and so on. However, little is known about the role of previous experience and its interaction with gender, social interaction and cognitive support in choosing prosocial or antisocial reacting cyberbullying (Carlo, Roesch, & Melby, 1998).

As stated before, in a perspective of reciprocity norm, teenagers tend to conduct what they have suffered to others, so as to make themselves feel more balanced (Zajonc & Burnstein, 1965). The reciprocity principle works as a mechanism to show mutual benefit in economic, cultural and political exchanges; however, in cyberbullying activities, it becomes a mechanism for the victims to retaliate others. In this way, teenagers who have been cyberbullied tend to transfer what they have suffered to other, and conduct antisocial behaviors. However, on the contrary, it is also possible that teenagers’ tend to be more empathetic if they had once suffered the bitter experience. Empathy is sort of ability to take other’s perspectives. Scholars have found extensive supports that empathy predicts prosocial behaviors, and a lack of empathy is associated with all kinds of antisocial behaviors (Eysenck, 1981; Miller & Eisenberg, 1988).

Social Role Theory and Gender

Numerous studies reveal that gender differentiates in empathy between teenagers. Girls conducted prosocial behaviors more than boys, and boys reported to have more angry emotions
than girls (Zahn-Waxler, Cole, Welsh, & Fox, 1995). Furthermore, researchers on social role theory have shown that socialization shapes behaviors differently for boys and girls in many ways and many societies. For example, women's considerations for others were supposed to underlies their altruism, and hence lead to prosocial behaviors (Underwood & Moore, 1982); in addition, investigators as Eisenberg and Lennon (1983), they have demonstrated that sex difference in empathy is saliently different due to gender role obligations and characteristic requirements. Therefore, hypothesis one is proposed as follows:

**H 1**: Gender predicts coping strategies, such that a) Girls tend to conduct more prosocial behaviors than boys; b) Boys tend to conduct more antisocial behaviors than girls, when confronting cyberbullying activities in SNS.

More interestingly, Batson and his colleagues (1996) have found out that women reported more empathy with a same-sex teenager when they had had a similar experience during their adolescence, but this relationship didn’t appear in men. Another study investigated 2,862 Hong Kong Chinese adolescents, not only found that boys tended to be more antisocial than girls, but also revealed that boys were significantly influenced by negative peers whereas girls were significantly influenced by positive peers (Ma, Shek, Cheung, & Lee, 1996). Combining the former literature about empathy; it reveals that girls tend to be more empathetic if they share the feelings with the one who suffers, and will be more prosocial. Nevertheless, boys tend to be more anger and more eager to retaliate if they have been treated badly, and therefore will be more antisocial.

In the case of confronting cyberbullying in SNS, girls are more likely to be helpful and conduct prosocial behaviors in coping with cyberbullying activities happened in SNS, and those girls who have experiences of being cyberbullied tend to be more prosocial. On the contrary,
boys are more likely to commit antisocial behaviors in reacting with other cyberbullying activities in SNS, and those boys who have been cyberbullied tend to more antisocial. Due to the above reasoning and literature, it is safe to formulate hypothesis two as follows:

H2: The impacts of previous experience of being bullied on coping strategies will be moderated by gender, such that a) girls who have been cyberbullied tend to conduct more prosocial behaviors, whilst b) boys who are cyberbully victims tend to conduct more antisocial behaviors, when confronting cyberbullying activities in SNS.

Social Support: Social Interaction & Cognitive Support

Social support is kind of perceptions that one is concerned about by others, and it would provide regular positive experiences and stable mindset to a person (Cohen & Wills, 1985). As for the teenagers, during the process of socialization, peers play a vital role in their social support and social adaption. Youth was the high time that teenagers spend most of their time with cohorts and regard peers as reference and sources of getting approval. Nowadays, teenagers are fond of using social network site. Piles of research have found that they have need for intimacy and friendship (Lambert, 2013). Online social interaction has become a significant portion of sources in teenagers’ emotional supports. Adolescents’ sense of belonging, strong attachments and peer acceptance also fueled through social interaction with friend (Roskamp, 2009). Various studies have found connections between social interaction and attachment, emotional well-being, emotional adjustment, etc. (e.g., Riger & Lavrakas, 1981; Riger & Lavrakas, 1981). Teenagers have more feelings of social bonds through social interaction, and this may lead to prosocial behaviors; otherwise, scholars have showed that social isolation would cause the decreases of prosocial behaviors (Twenge et al, 2007). Therefore, hypothesis three is proposed as follows:
**H3:** Social interaction predicts coping strategies, such that social interaction with friends online has a) a positive effect on teenagers’ prosocial coping strategies, and b) a negative effect on teenagers’ antisocial behavior.

In addition, plenty of studies showed that strong social support and life satisfaction could prevent teenagers from the negative results associated with harassment (e.g., Davidson & Demaray, 2007; Demaray & Malecki, 2003). Friendship support also is regarded as a good cure of depression and frustration (Feldman, Rubenstein, & Rubin, 1988). Research on traditional bully-victims also revealed that the impact of cyberbullying might be dependent on their social and emotional adjustment, such that possible good outcomes would happen with well emotional accommodations (e.g., Gradinger, Strohmeier, & Spiel, 2009). Therefore, as for those who have been cyberbullied before, social support could be the factors that impact the role of previous experience in coping strategies.

For those teenagers who have been cyberbullied, social interaction with friends may have more influences than the nob-victims. Research found that teenagers who had been cyberbullied would suffer higher degrees of frustration and lower degrees of self-esteem (Ubertini, 2010). Given the teenager has suffered a strong sense of depression by being cyberbullied, social support from friends through interaction online is supposed to be a good way to buffer him/her from distress (Davidson & Demaray, 2007), helping the victim move out from the miserable experiences and get refreshed. Otherwise, victims tended to be more social isolated, excluded and frustrated, and also, previous studies had found that social ostracism caused a substantial reduction in prosocial behaviors (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007). Hence, it is reasonable to propose hypothesis four as below:
**H4:** Social interaction with friends online is a moderator in the relationship between previous experience of being cyberbullied and the coping strategies, such that a) more frequent social interactions make previous victims do more prosocial behaviors, whilst b) less social interaction with friends lead to more antisocial behaviors.

Social interaction with friends online composes the emotional support part of teenagers; however, Slonje and Smith (2008) found that friendship was not also applicable; since they were less likely to consider cyberbullying important and they also lack of confidence that cyberbullying could be stopped. Hence, the complementary part is suggested to be cognitive support, which is often hard to gain from their peers.

In current study, cognitive support refers to the advices and guidance that the teenagers’ get from others on how to use the internet and cell phones responsibly and safely. Those who provide suggestions include other people, substance or institutions, ranging from parents, teachers, books, mass media to electronic companies (Demaray & Malecki, 2003). In daily life, people are demanded to make decisions from time to time, their choices are usually dependent on prior experiences, relative knowledge and thinking, etc. Similarly, for teenagers, equipped with various information, knowledge and advice, they also tend to be more skillful; and hence, they may get more efficacy and capability to conduct more prosocial behaviors. More importantly, cognitive support also bears the responsibility of transmitting social norms. It not only tells teenagers how to do self-protection, but also how to do good to others. On the contrary, if teenagers seldom receive relative information or suggestions on how to behave online, according to theory of social imitation (Callen & Shapero, 1974), teenagers tend to mock the antisocial behaviors by observation. Hypothesis five is hence built:
H5: Cognitive support predicts coping strategies, such that cognitive support has a) a positive effect on teenagers’ prosocial coping strategies, and b) a negative effect on teenagers’ antisocial behavior.

In addition, former studies have highlighted the role of parents’ guidance and other cognitive supports towards risk behaviors (e.g., sexual risk, drugs use) (Biglan, et al, 1990; Ennett, 2001, etc.). Furthermore, just like that non-patients never care about medicines until they get sick, those teenagers wouldn’t take the cognitive support seriously until they have been cyberbullied. In line with the stress-buffering model, social support is related to well-being only for the persons under stress (Cohen, Underwood, & Gottlieb, 2000). Therefore, it is possible that the cognitive support will be more effective when the teenagers are just in need of it. In other words, cognitive support may play a more evident and fatal role under the circumstance that the teenagers have been harmed. In the case of cyberbullying, cognitive supports are in urgent need and become understandable to the prior victims. Equally important is that, good cognitive support can switch the bad experience of being cyberbullied into a benign cognitive understanding toward the detriments and tend to be more empathetic, whilst without cognitive support, teenagers may hold and cumulate the bad feeling of being cyberbullied and lead to commit revengeful behaviors. Whether the victims learn to be more empathy or reversely to be more resentful from a certain cyberbullying activities would be highly associated with their own reflection and cognitive support. Therefore, hypotheses are listed as follows:

H6: Cognitive support is a moderator in the relationship between previous experience of being cyberbullied and the coping strategies, such that a) more cognitive support on previous victims predicts more prosocial behaviors, whilst b) less cognitive support on previous cyberbullied victims leads to more antisocial behaviors.
Putting all the hypotheses into two equations and graphs, their relationships is as follows:

\[
PB = b_0 + b_1G + b_2PE + b_3SI + b_4CS + b_5PE*G + b_6PE*SI + b_7PE*CS
\]

\[
AB = b_0 + b_1G + b_2PE + b_3SI + b_4CS + b_5PE*G + b_6PE*SI + b_7PE*CS
\]

(Note: PB: prosocial behavior  G: gender  PE: previous experience of being cyberbullied
SI: social interaction online  CS: cognitive support)
**Method**

**Sample**

Data for the current analysis was obtained from the Pew Internet and American Life Project. The data was collected from April 19 to July 14, 2011, and was administered by landline and cell phone, in English and Spanish. There were 799 teenager aged at 12-17 year-old participated in the survey, and 95.7% of teenagers reported that they have used Internet at least occasionally, and also 77.8% (N=622) of them used online social network site such as Facebook or Myspace. As this study aims to test the coping strategies in SNS, the 177 nonusers of SNS were excluded; and hence this study finally chooses the response of 622 teenagers who are SNS users as cases. Of them, there were 288 (46.3%) boys and 334 (53.7%) girls, with an average age at 15 year-old.

Survey questionnaire was designed to collect data about teenagers’ age, sex and educational level, etc. Additionally, each teenager was asked a series of questions on previous experience of cyberbullying, social interaction with friends, cognitive support from all kinds of channels and their reacting strategies when confronting cyberbullying activities in SNS.

**Measurement**

**Previous experience.** Previous experience refers to teenagers’ experience of being cyberbullied in the past 12 months through SNS. If the teenager reported that he has once been cyberbullied, it is regarded as having experience of being bullied; whilst if they have never been bullied in SNS, it is regarded as not having experience of being bullied. The original item was scored as “Yes” or “No”, and it is recoded to “0.5” (have been cyberbullied) and “-0.5” (have never been bullied).
Gender. Gender refers to teenagers’ sex as “boy” or “girl”. In dummy coding, boys was regarded as reference group and recoded into 0, whereas girl recoded into 1. In regression, contrasting coding was employed. Boy was recoded as -.5, and girl was recoded as .5.

Social interaction online. Social interaction with friends refers to teenagers’ interaction with friends in SNS. The interaction was measured by the following six questions: Do you ever 1) Post comments to something a friend has posted? 2) Send private messages to a friend within the social networking site? 3) Send instant messages to or chat with a friend through the social networking site? 4) Tag people in posts, photos or videos? 5) Post a status update? 6) Post a photo or video? These six questions were all scaled as “Yes” (=1) and “No” (=0) and had a applicable reliability in total (Cronbach’s Alpha = .713). We add them together in the analysis and thus, the scale of social interaction with friends range from 0 to 6.

Cognitive support. Cognitive support means the related knowledge and advice support given to the teenagers on how to use the electronic devices safely and responsibly. It is measured in a way that “Have you ever received advice about how to use the internet and cell phones responsibly and safely from (different sources)?” The sources of cognitive support asked in the questionnaire include 11 items: 1) your parents; 2) a brother, sister, or cousin; 3) an older relative like an aunt, uncle or grandparent; 4) a friend or school mate; 5) a teacher or another adult at school; 6) a youth or church group leader or coach; 7) a librarian; 8) websites; 9) television, radio, newspaper or magazines; 10) a company that provides your internet or cell phone service; 11) someone or somewhere else. These 11 questions also were all scaled as “Yes” (=1) and “No” (=0) and had an acceptable reliability (Cronbach’s Alpha = .673). They have been added together in the analysis and thus, the scale of cognitive support ranges from 0 to 11.
Reacting strategies towards cyberbullying. Reacting strategies refer to those teenagers’ coping strategies towards other cyberbullying activities in social network site, which were divided into prosocial behaviors and antisocial behaviors. Questions were asked about “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? 3) Joined in the harassment? Similar questions were also employed to test “how often have you seen other people” to the three behaviors. The former two items examined the frequency of prosocial behavior and the last item tested the frequency of antisocial behavior. Items were scored on a 4-point scale as follows: (1) frequently; (2) sometimes; (3) once in a while; and (4) never. Scores on the first two items were subsequently summed (Person r =.645, p<.001), and the scale was reversely recoded with a range from 2 to 8, such that the larger the number, the more prosocial the behavior was. Meanwhile, the scale of antisocial behavior was also reversely recoded, ranging from 1 to 4.

Control variables. Former studies have found that teenagers’ age (e.g., Smith, Mahdavi, Carvalho & Tippett, 2006), family income (e.g., Festl & Quandt, 2013) and SNS using time (Brandtzæg, Staksrud, Hagen & Wold, 2009) may have influence in getting cyberbullied and cyberbullying coping strategies.

Results

Two OLS regressions were employed to test the hypotheses for prosocial behavior and antisocial behavior respectively (see appendix table 1). Control variables were included in block 1, main effect variables were added in block 2 and interaction effect variables were entered in block 3, in predicting prosocial behavior as well as antisocial behavior. For prosocial coping strategy, the overall model fit for prosocial behavior was applicable, $R^2 = .274$, adjusted $R^2 = .055,$
F (10, 467) = 3.76, p<.001. As for the antisocial coping strategy, the interaction model 3 of antisocial behavior had no statistical significance, and hence all the interaction effects were failed to get supported. Nevertheless, the main effects model was statistical significant, and the result showed that model 2 explain 3.4% of the antisocial behavior (Table 1, antisocial, model 2), F (7, 471) = 3.38, p<.01.

To be more specific, by holding age, family income and SNS using time constant, the outcomes revealed that gender positively predicted prosocial behavior (β=.207, p<.001), such that girls conducted more prosocial reaction; however, no statistically significance demonstrated that boys conducted more antisocial behaviors (β=-.055, ns). H1a was supported but H1b was failed to get supported.

Meanwhile, there was statistically significance that the interaction between gender and previous experience positively predicted prosocial behaviors (β=.126, p<.05), which indicated that girls who were cyberbullying victims committed more prosocial behaviors. Nevertheless, previous experience was directly significant predictor of antisocial behavior (β=.136, p<.01), and the moderation of gender and antisocial behavior was failed to show statistically significance (β=.061, ns), such that no gender difference was found in the cyberbullied victims’ antisocial behaviors. Therefore, H2a was supported whereas H2b was rejected.

In addition, social interaction with friends online had statistically significance in positively predicting prosocial coping strategies (β=.144, p<.05), while no statistical differences were found that less social interaction online would be predictor of antisocial behavior (β=.020, ns). Hence, H3a was testified to be true but H3b was not. Moreover, the proposed role of social interaction online to be a moderator in the relationship of prior being
cyberbullied experience and coping strategies were failed to get statistically significance both in prosocial (β = .091, ns) and antisocial (β = -.053, ns) reacting strategies. H4 was totally rejected.

Lastly, cognitive support hadn’t find statistical significance in predicting prosocial behaviors (β = .100, ns) as well as antisocial behaviors (β = .057, ns). Meanwhile, the interaction of previous experience and cognitive support didn’t show any statistically significances neither in prosocial behaviors nor antisocial behavior. Therefore, H5 and H6 were also rejected.

Discussion

The current study explored teenagers’ prosocial or antisocial coping strategies when confronting cyberbullying activities in SNS, particularly for those adolescents who had experience(s) of being cyberbullied. The author argued that teenagers’ previous experiences as victims might have a reciprocity effect that they tend to commit antisocial behavior to others as what they have suffered; or conversely, they might have more empathy to the other victims and conduct more prosocial behaviors. On account of these two competing logical derivations, this study took gender, social interaction online and cognitive support from others into account, to elaborately probe the role of prior experience in predicting coping strategies, and the possible transformation between perpetrators and victims.

This study had accordant findings with existing literatures that gender differentiated in coping strategies towards cyberbullying, such that girls conducted more prosocial behaviors than boys. Meanwhile, for the teenagers who had been cyberbullied, female victims also reported more prosocial reacting strategies than that of male victims. These results showed that empathy played a role in teenagers coping strategies. Nevertheless, this study also found that previous
being cyberbullied experience had directly predicted antisocial behavior instead of having moderation effect; which meant that not only boys who had been cyberbullied might get triggered to become more aggressive, but also those girls would do the same. Therefore, reciprocity norms also work as mechanism in prior victims’ behavioral logic, and meanwhile, this indicates the possibilities that the victims of cyberbullying may become the perpetrators. Additionally, teenagers’ social interaction online positively predicted their prosocial reacting strategies, but cognitive support were failed to neither positively predicted prosocial behavior nor negatively predicted antisocial behavior. Therefore, effective ways to guide teenagers to be more prosocial rather than antisocial, especially the teenagers who have been cyberbullied, requires more research.

Besides the supported hypotheses, several hypotheses have been rejected. Firstly, the present study found no statistically significant differences in conducting antisocial behaviors between girls and boys. According to social role theory, girls are supposed to have more empathy towards others, and there is a long-standing belief that female adolescents’ antisocial behaviors are rare, primarily in nature. However, several self-reports of delinquency indicated that girls reported the same patterns of antisocial behavior as boys (e.g., Pajer, 1998), it was just that female’s social deviance had always been neglected (Venkatesh, 1998). In line with the research on social deviance, antisocial behaviors was happened based on many reasons, such as ineffective parenting practices, peer rejection and academic failure; and particularly for girls, parenting behaviors of gender bias, easily emotional fluctuation, etc. (Patterson, DeBaryshe, , & Ramsey, 1989). Consequently, both girls and boys who had been cyberbullied tended to be revengeful to conduct antisocial behaviors. Interestingly, combing the outcomes together, girls who had been cyberbullied was possible to conduct prosocial behavior as well as antisocial
behavior when confronting cyberbullying activities in SNS. This study couldn’t articulate under what conditions which coping strategies would be adopted by girls. Future studies could be done on this perspective to explore more influencing factors.

Secondly, frequent social interactions online lead to prosocial behavior, and few social interactions online with friends were supposed to be regarded as socially isolated, and result in antisocial behaviors. However, it may be not the often case. Instead of active on Internet, teenagers might have good social circles in reality and thus their tendency of conducting antisocial behaviors might also be low. In addition, social interaction with friends online didn’t moderate the relationship between previous being bullied experience and the coping strategies. The reasons was supposed to be that, actually, for teenagers had been cyberbullied in social network site, even though they had frequent interaction with friends and get sufficient emotional support, they might still have concerns of being cyberbullied again, and hence adopted ignoring strategies to self-protection rather than involve in the cyberbully activities. Furthermore, some researchers have demonstrated that negative social interaction was a predictor of psychological distress (Lakey, Tardiff, & Drew, 1994). Since current study hadn’t taken the responses from friends and the quality of interaction into consideration, it was likely that the social interaction might also lead to dissatisfaction. Hence, social interaction online was a double-edge sword for the prior victims, and played a rather complicated role in coping strategies.

Thirdly, cognitive support was failed to have both main and moderation effect. Cognitive advices from different agencies about how to behavior safely and responsibly couldn’t influence teenagers to increase their prosocial behavior or reduce their antisocial behaviors. To begin with, as teenagers in this generation are deemed as Internet savvy, they don’t think that they need cognitive support about how to protect themselves from others. Meanwhile, even though others
provided cognitive support to them, they might don’t take it seriously. The being cyberbullied victims might in need of cognitive support, however, they might often not believe the advices that given by other agencies and also didn’t think that the advice would help.

However, there are several limitations to point out for this study and several questions require further studies. Firstly, the victims of cyberbullying had been investigated without concerning their previous conducting cyberbullying experiences. Even though whether the teenager had ever cyberbullied others or not was not a theoretical concern in this study, it might influence teenagers’ coping strategies in many ways, such that joining the harassment might have become a habitual behavior for the teenager. Furthermore, current study regarded previous experience as categorical variable, which ignored the magnitude, frequency, depth of the bullied experiences. Future studies can deliberate and compare the difference between those teenagers who have been victims frequently and those teenagers who have been victims occasionally; between those who was widely known as victims and those who was known as victims privately, to see how these factors influence teenagers’ coping strategies.

More importantly, this study provides other questions for further discussion. Previous studies focus on the victims’ depression emotion and self-esteem, but from a perspective of practical approach, cognitive support couldn’t decrease the antisocial behaviors and increase prosocial behaviors, then what would be the effective ways to decrease teenagers’ antisocial behavior? This study revealed that social interaction and cognitive support were not effective ways in leading the prior cyberbullying victims to increase prosocial behaviors and decrease antisocial behaviors. Other scholars also find that teenagers had their own efficacy in seeking for help, but their endeavors of help-seeking are often in vain. For example, seldom teenagers reported the cyberbullying behaviors to their parents, as parents might expropriate the computer
for its bad impacts (Aricak, et al, 2008). Besides, when they turn to their friends for help, peers just didn’t take their experience of being cyberbullied seriously (Slonje and Smith, 2008); or the peers were not able to come up with good suggestions. Nevertheless, although social support seems to be less effective, previous literatures also provide other possibilities that may guide the victims to be prosocial. For example, according to the social cognitive study, will the teenagers prefer to adjust their behavioral logic through observation and learning from others’ coping strategies? Or from another point of view, in line with the social information processing theory, will the teenagers who have been cyberbullied process the information in different ways, and hence lead to different coping strategies? Future research can continue to explore these questions.
References


Appendix

Table 1 OLS regression coefficient in predicting prosocial/antisocial coping strategies

<table>
<thead>
<tr>
<th></th>
<th>Prosocial Coping</th>
<th></th>
<th>Antisocial Coping</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
<td>Model 1</td>
</tr>
<tr>
<td>Age</td>
<td>.021</td>
<td>.043</td>
<td>.043</td>
<td>.010</td>
</tr>
<tr>
<td>Family Income</td>
<td>-.012</td>
<td>-.021</td>
<td>-.019</td>
<td>-.115</td>
</tr>
<tr>
<td>SNS using</td>
<td>.015</td>
<td>-.033</td>
<td>-.045</td>
<td>.028</td>
</tr>
<tr>
<td>Gender(G) (male= -0.5)</td>
<td>.126**</td>
<td>.207***</td>
<td></td>
<td>-.094*</td>
</tr>
<tr>
<td>Prior Experience (PE)</td>
<td>.094*</td>
<td>.077</td>
<td></td>
<td>.143**</td>
</tr>
<tr>
<td>(No= -0.5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive supports (CS)</td>
<td>.141**</td>
<td>.100</td>
<td></td>
<td>.029</td>
</tr>
<tr>
<td>Social Interaction (SI)</td>
<td>.077</td>
<td>.144*</td>
<td></td>
<td>.051</td>
</tr>
<tr>
<td>PE X G</td>
<td></td>
<td></td>
<td>.126*</td>
<td>.061</td>
</tr>
<tr>
<td>PE X SI</td>
<td></td>
<td>.091</td>
<td></td>
<td>-.053</td>
</tr>
<tr>
<td>PE X CS</td>
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<td>-.073</td>
<td></td>
<td>.057</td>
</tr>
<tr>
<td>Adjusted R square</td>
<td>-.006</td>
<td>.045***</td>
<td>.055*</td>
<td>.010</td>
</tr>
</tbody>
</table>

Notes: Entries are standardized regression coefficients. *p< .05  ** p<.01 ***p<.001; Model 1 includes control variables, Model 2 is the main effect model, and Model 3 is the interaction model.

† There are also many possibilities that the injured victims become less self-esteem and encounter more social anxiety, and they prefer to stand by and ignore the cyberbullying activities happened to others more. Even though ignoring, as a strategy towards cyberbullying activities, also deserves research, the current study which tends to focus on the interaction between victims and perpetrators omits such kind of coping strategy. Further study can shed light on this specific phenomenon.

‡ The same as the first note.