



The Effects of Capable Guardians on the Risk of Cyberbullying Victimization

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Abstract: Cyberbullying victimization has been shed lights on as a significant social problem, which has caused serious detrimental, suicide for its youth victims. Thus, it is imperative to understand the student's risk of cyberbullying victimization in order to establish crime prevention strategies to secure our school environment. The purpose of this study is to conclude the relationship between the school's guardianship efforts and cyberbullying victimization. Data analyzed in this study was derived from the 2017 National Crime Victimization Survey School Crime Supplement. The findings of this study indicate that the school's rule environment is negatively associated with cyberbullying victimization, whereas school security and social support (teacher or adult at school) were not significant predictors of cyberbullying victimization. The policy implications and limitations of this study are discussed.

Keywords: cyberbullying, school security, school rule environment, social support, NCVS

Introduction

With the advent of the Internet, the number of the Internet users has been dramatically increased for the past three decades. In line with that, it is interesting to note that youths have become the lead group of Internet adoption. International Telecommunication Union reported 98% of young people aged 15-24 in developed countries are using the Internet in 2019, while 66% of young people in developing countries are using the services. In addition, the proportion of young people using the Internet (69%) is significantly higher than that of the total population using the Internet (48%) (ICT Facts and Figures, 2020). While young people have benefited from the prevalence of the

Internet, the advanced technology has been also used to cause various types of online victimization (Eustace et al., 2017). For instance, with the extensive, daily use of the Internet and smartphones among youth, they are at an increased risk to be exposed to cyberbullying (Kwan & Skoric, 2013).

Cyberbullying is defined as “an aggressive, intentional act carried out by a group or individual, using *electronic forms of contact*, repeatedly and over time against a victim who cannot easily defend him or herself” (Smith, et al., 2008, p.376). Cyberbullying mostly involves abusive text messages, emails, posts, explicit images, and videos as well as deliberately excluding others online and spreading fake rumors in an attempt to humiliate targeted victims (Hinduja & Patchin, 2007; Tokunaga, 2010; Watts et al., 2017). As a consequence, the targeted victims can face with both internalized problems and externalized problems (Fisher et al., 2016). Cyberbullying victims commonly experience symptoms associated with higher levels of internalized symptoms including depression and anxiety (Holfeld & Baitz, 2020; Lee, 2020), anger, and low self-esteem (Patchin & Hinduja, 2010). Cyberbullying victims also experience higher levels of externalized symptoms such as aggression, delinquency (Holfeld & Baitz, 2020), substance abuse (Lee et al., 2020), eating disorders (Marco et al., 2018), self-harm and suicidal behavior (Fisher et al., 2016; John & Colleagues, 2018). Given the prevalence and importance of cyberbullying issue, guardians (e.g., teachers, school administrators, parents) must play an essential role in stopping further incidences through implementing accurate intervention of school bullying in cyberspace. It is imperative to understand what factors influence the student’s risk of cyberbullying victimization in order to establish crime prevention strategies to secure our school environment. Thus, this study seeks to empirically examine the relationship between the school’s guardianship efforts and cyberbullying victimization.

In the following sections, the current study will outline the literature review, methodology. And then, this study will discuss the findings, policy implications, and limitations of this research.

Literature Review

Routine Activity Theory

Routine activity theory articulates that crime occur when three elements—a motivated offender, a suitable target, and the absence of a capable guardian—converge in time and space (Cohen & Felson, 1979; Felson, 2017). Reynald (2011) and Ireland, Huang, and Peguero (2020) explain that motivated offenders have criminal inclination to commit offenses due to certain motivations. Also, they illustrate that a suitable target can be an object (e.g., places, persons or items), which attracts motivated offenders, is not only

small and expensive but also is insecure (De Coster, et al., 1999). Capable guardians are those who can protect the suitable targets against crime events (Reynald, 2011). In align with these concepts, the occurrence of crime can be prevented if the potential victim is protected by capable guardians in the situation. It means that certain behaviors and environment settings can decrease one's attractiveness and enhance their capable guardianship levels (Choi et al., 2019; Cohen & Felson, 1979).

Capable Guardianship at School

School can act as a capable guardian while students at school. Popp (2012) asserted that when schools play a significant role in acting as capable guardians, school-based crime victimization can be prevented under the school's protection. First and foremost, school security features (e.g., security guards and/or assigned police, school staff or other adults supervise the hallways, metal detectors, locked entrance or exit doors during the school day, visitors must sign in, locker checks, students are required to wear identification badges, security cameras monitor the school, and a written code of student conduct) can reduce the risk of bullying victimization. Second, school rule environment (e.g., fairness and clarity of school rules) may influence bullying victimization and school environment. Third, the social support networks with teachers and school personnel can be a very significant factor to reduce the occurrence of bullying (Olweus, 1994, 1997). The emotional connection derived from these social supports will enhance "the guardianship level so that bullies are likely to avoid targets who have adults in their social support networks" (Olweus, 1994, 1997; Popp, 2012, p. 319). The following section will explain the existing research on these three aspects of capable guardian at school and cyberbullying victimization.

Prior Research on Capable Guardianship and Cyberbullying Victimization

Since the original RAT developed by Cohen and Felson (1979), a large body of research focused on examining the capable guardian measure and routine activity to explain how the absence of capable guardian and regular routines of potential victims can increase the risk of crime victimization. Felson (2006) asserts that a guardian is a person who keeps an eye on the potential target of crime. Therefore, the capability of person and/or objectives that protect citizens and facilities against criminals are regarded as guardianship. Cohen and Felson (1979) suggested that enhancing guardianship levels are associated with significantly lower levels of crime occurrence.

Typically, many researchers (Garofalo & Clark, 1992; Stahura & Sloan, 1988) have applied a micro- and macro-level approaches or place-based approach. Stahura and Sloan (1988) examined the relationship between guardianship and crime through three variable such as police employment, police expenditure, and female labor force

nonparticipation. Capable guardians have been commonly utilized to prevent residential burglary (Garofalo & Clark, 1992). Garofalo and Clark (1992) found that the presence of a dog or the use of security systems (e.g., burglar alarms, external lights, extra locks) could decrease the risk of burglar and larceny victimization. In addition, Wilcox et al. (2007) asserted that target hardening, place management and informal social control were negatively associated with burglary rates.

Previous studies (Hodges et al., 1999; Hodges & Perry, 1999; Kochenderfer & Ladd, 1997; Olweus, 1994, 1997; Pellegrini et al., 1999; Popp, 2012) have applied school's guardianship as a theoretical framework to explain preventative measures for reducing student's risk of bullying victimization. These previous studies investigated whether the student's risk of bullying victimization was influenced by the measures of capable guardianship: (1) school security, (2) rule fairness, and (3) social support. Unfortunately, the existing literature (Schreck et al., 2003; Wilcox et al., 2006) was limited to reveal a significant relationship between school security and school-based victimization. However, the previous research (Welsh, 2001; Welsh et al., 1999) found that a school environment by effectively and fairly implementing their rules and discipline policies was an important predictor of reducing bullying victimization. Additionally, Gottfredson et al. (2005) and Payne et al. (2003) stated that socially organized schools could build an emotional attachment to school which further mitigate the risk of victimization by decreasing student's criminal propensity to engage in school-based crime activities. Importantly, Popp (2012) found that the school's guardianship-rule fairness-were negatively related to the student's risk experiencing bullying victimization while at school.

Recently, numerous studies have applied the routine activities approach to cybercrime victimization. In particular, Bossler and Holt (2009), Choi (2008), Reyns (2013), and Williams (2016) were the lead cyber-criminologists to examine the relationship between physical capable guardians (i.e., anti-virus software) and cybercrime victimization. To that end, a critical element in the RAT theoretical framework is the capable guardianship which can mitigated the risk of cybercrime victimization. In a related sense, capable guardianship was significant predictor of cyberbullying victimization (Choi et al., 2019; Patchin & Hinduja, 2018). Despite of the importance of capable guardianship on reducing cyberbullying victimization, to date, few studies have been examined the association between capable guardianship factors-school security, school rule, and social support-and cyberbullying victimization. For example, in one study conducted by Choi et al. (2019), they accessed the effects of capable guardianship on the risk of cyberbullying along with the concepts of formal capable guardianship, informal capable guardianship, and school security. In their study, the formal guardianship variable included measures such as the presence of

established and enforced school rules; the informal guardianship variable included measures: teachers treat students with respect and care about their students; school security variable included eight measures (e.g., school security guards or police, metal detectors, ID badges, reporting school-based crime without giving name, etc.). They found that capable guardianship is a significant predictor for the risk of cyberbullying victimization—school rules and teacher cares reduced the probability of cyberbullying victimization.

Social support also is considered as another important concept associated with capable guardianship. Saylor and Leach (2009) define social support as the individual's perception of being cared for, valued, and included in his or her social environment including family, peers and other socially significant people. Olenik-Shemesh and Heiman (2017) and Holfeld and Baitz's (2020) studies revealed that cyber victimization is significantly correlated with low social support. Using peer support is especially important to prevent bullying victimization (Holt & Espelage, 2006). To improve the social support environment in a school setting, multiple prevention programs have been conducted and showed their effectiveness. For example, Social-Emotional Learning program (Espelage et al., 2013; Jones et al., 2013), cognitive behavioral school-based intervention program (Barns et al., 2014), and arts-based interventions—music, movement, and art prevention program—had effects on improving the level of peer support by teaching skills such as empathy, anger management, and listening skills (Hervey & Kornblum, 2006; Suh, 2019; Wölfel, 2019).

Despite several studies estimating the effects of capable guardianship on reducing bullying and/or cyberbullying victimization, there is a gap in the literature. For example, Choi et al. (2019) study was limited to point out the specific preventative measures of cyberbullying victimization because the variables—(1) school rules and (2) school security—utilized in their analyses were single factor measures created using factor analysis. In other words, it might be limited to reveal which of each preventative measure was directly influencing on mitigating risk of cyberbullying victimization. Therefore, the present study contributes to extend previous works aimed at testing the effect of each guardianship measure on cyberbullying victimization instead of using independent variables items are factor analyzed.

Present Study

While previous studies have highlighted numerous factors that affect risks of experiencing bullying in general, few studies have focused on identifying risk and/or preventative predictors of cyberbullying victimization. Moreover, even few studies have utilized capable guardianship variable as a theoretical perspective to frame and ground findings of cyberbullying victimization. Therefore, using Routine Activities

Theory (Cohen and Felson, 1979) as a theoretical framework, the present study fills a substantial void in the literature by reviewing what preventative measures mitigate the risk of experiencing cyberbullying victimization.

Similar to the work of Choi et al. (2019) and Popp (2012), the following three hypotheses test the associations between capable guardianship-school security, school rule environment, social support-and cyberbullying victimization. Given that, the specific research question and hypotheses related to the relationships between capable guardianship and cyberbullying victimization are described below.

Research question: Can capable guardians at school help to reduce the risk of cyberbullying victimization?

Hypothesis 1: School security reduces the risk of cyberbullying victimization

Hypothesis 2: School rule environment reduces the risk of cyberbullying victimization.

Hypothesis 3: Social support reduces the risk of cyberbullying victimization.

Methodology

Sample

The data used for this study derived from the 2017 School Crime Supplement (SCS) were part of the National Crime Victimization Survey, available at the Inter-University Consortium for Political and Social Research (ICPSR). The main purpose of the Supplement was to provide information about school-based crime victimizations on a national level in order to help policy makers, researchers, and practitioners making informed decisions regarding this issue. The SCS data are collected through interviews of respondents who are aged 12 to 18, and the gathered information includes school characteristics, fear of being harmed at school, victimization experiences, and individual characteristics, such as grade, attendance, and college plans (Seldin & Yanez, 2019).

In 2017, 13,695 youth ages 12 through 18 were eligible to complete SCS interviews along with certain criteria, which requires students attended school at some time during the 6-months preceding the survey. Students who were homeschooled were not eligible to participate in the SCS survey. All interviews for the 2017 NCVS/SCS are administered using computer-assisted interviewing. The student interview completion rate was 52.5 percent. Respondents who had not completed to respond on all subparts of the bullying victimization were eliminated (80 cases). Following these steps, 1070 cases for cyberbullying victimization were finally retained for the analyses in this study.

Measures

Dependent Variable

Cyberbullying Victimization. Cyberbullying victimization was measured as a dichotomous variable and captured whether the student had been bullied in cyberspace during the 2016/2017 school year. As such, a dependent variable for cyberbullying victimization was created through a survey item. The experience of cyberbullying victimization was measured by asking the question: “Where is the other place where bullying occurred?” To answer the question, respondents chose from the following list: Online or by text. In the present study, survey responses for this question were coded (0 indicating *no*; 1 indicating *yes*).

Independent Variables

Three variables were used to investigate the effect of guardianship on the student’s risk of cyberbullying victimization at school. As such, the capable guardianship variables consist of (1) school security, (2) school rule environment, and (3) social support. Ten survey items were gathered to measure these three aspects of the capable guardianship at school setting.

School Security. Survey respondents were asked as the followings: (1) “Security guards or assigned police officers?”; (2) “A code of student conduct, that is, a set of written rules or guidelines that the school provides you?”; and (3) “If you hear about a threat to school or student safety, do you have a way to report it without having to give your name?” Responses to these three items were scored on a scale (0 indication *no*; 1 indicating *yes*).

School Rule Environment. Survey respondents were asked as the followings: (1) “The school rules are fair.”; (2) “The punishment for breaking school rules is the same no matter who you are.”; (3) “The school rules are strictly enforced. (Strictly enforced rules means that the school consistently carries out disciplinary actions against any students who break school rules.)”; and (4) “If a school rule is broken, students know what kind of punishment will follow.” Responses to these three items were scored on a scale (1 indicating *strongly disagree*; 2 indicating *disagree*; 3 indicating *agree*; and 4 indicating *strongly agree*).

Social Support. Survey respondents were asked as the followings: (1) “Teachers treat students with respect.”; (2) “Teacher or other adult at school really cares about you.”; (3) “Teacher or other adult at school listens to you when you have something to say.”; and (4) “Teacher or other adult at school tells you when you do a good job.” Responses to these three items were scored on a scale (1 indicating *strongly disagree*; 2 indicating *disagree*; 3 indicating *agree*; and 4 indicating *strongly agree*).

Control Variables

Control variables in this study include two demographic background variables: gender and age. Age is measured in years and represents his or her age at the time of survey. Male is a variable that captured the student's sex (1 indicating *male*; 0 indicating *female*).

Analytic Method

All models were estimated using SPSS 27. First, a correlation matrix was provided to show bivariate relationships between variables. Second, a series of logistic regression were employed in order to examine the relationship between school security, school rule environment, social support and cyberbullying victimization because of the dichotomous nature of the dependent variable. The first model established the baseline model with school security measures to which other models can be compared and contains the control variables. The second model added the school rule environment measures to the baseline model to determine their relationship with cyberbullying victimization. Next, the third model include school security, school rule environment, and social support along with the control variables to evaluate the preventative effect on cyberbullying victimization.

Results

Table 1 present the descriptive statistics for the variables in this study. Approximately 17% of the students reported being a victim of cyberbullying in the previous 6 months. School security measures indicated that 76% of the students reported security guards or assigned police officers enhance school security circumstances; 98% of the students reported the school provides them a code of student conduct; 88% of the students reported the school has a reporting a threat to school without having to give their name. Looking at the school rule environment measures, students perceived the school rule and punishment as being fair and knew exact punishment regarding delinquent behavior with a mean score of 3 out of 4. Looking at the social support measures, students, on average score minimum 3.12 out of 4, which indicates that most students have at least one teacher and adult they can rely on for social support while at school.

Bivariate Relationships

Table 2 shows the bivariate correlations of the study variables. School rule strictly enforced (SRSN) and student knew punishment (SKP) had negative relationships with cyberbullying victimization. In other words, students who perceived school rule has been strictly enforced have a lower risk of cyberbullying victimization; students who knew type of punishment implemented by school have a lower risk of cyberbullying victimization. However, other independent variables were not statistically significant

predictors of cyberbullying victimization. For controls variables, gender was negatively associated with cyberbullying victimization, whereas age was positively associated with cyberbullying victimization.

Table 1: Descriptive Statistics (N = 1070)

<i>Variables</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
<i>Dependent Variable</i>				
Cyberbullying Victimization	.17	.37	0	1
<i>Independent Variables</i>				
Security guard/police	.76	.42	0	1
Code of student conduct	.98	.15	0	1
Reporting threat	.88	.32	0	1
Fair school rules	3.08	.64	1	4
Fair Punishments	2.99	.82	1	4
School rule strictly enforced	3.00	.72	1	4
Students know punishment	3.03	.68	1	4
Teacher treats	3.12	.68	1	4
Teacher/adult cares	3.41	.63	1	4
Teacher/adult listens	3.43	.58	1	4
Teacher/adult tells good work	3.32	.62	1	4
<i>Control Variables</i>				
Gender (Male = 1)	.42	.49	0	1
Age	14.40	1.82	12	18

Logistic Regression Analyses

Table 3 presents the results of the logistic regression analysis of the effect of school security, School rule environment, and social support on cyberbullying victimization while controlling for student characteristics (sex and age). Model 1 establishes a baseline model to which the other models can be compared. In the baseline model, age is positively related to the risk of cyberbullying victimization, and gender is inversely related to the risk of cyberbullying victimization. However, there is no statistically significant relationship between school security measures and the risk of cyberbullying victimization in the baseline model.

Model 2 incorporates the measures of school rule environment into the logistic regression analysis of cyberbullying victimization while controlling for sex and age variables. Only one of the four school rule environment measures has a statistically significant relationship with cyberbullying victimization. Students who knew type of punishment implemented by school are 36% less likely to report being a victim of cyberbullying as compared to those students who did not know type of punishment implemented by school ($b = -.43$, Odds Ratio = .64, and $p < .01$). Consistent with Model

Table 2: Correlation

	CV	Gender	Age	SGP	CSC	RT	FSR	FP	SRSN	SKP	TT	TAC	TAL	TATGW
CV	1													
Gender	-.19**	1												
Age	.09**	-.04	1											
SGP	.02	-.01	.14**	1										
CSC	.01	.01	.06*	-.01	1									
RT	.01	.03	.05	.02	.09**	1								
FSR	-.03	.04	-.07*	-.05	.01	.13**	1							
FP	-.05	.07*	-.12**	-.02	-.01	.16**	.47**	1						
SRSN	-.09**	.07*	-.06*	.01	.01	.12**	.30**	.40**	1					
SKP	-.09**	-.01	-.01	-.02	-.01	.14**	.26**	.34**	.38**	1				
TT	-.02	.09**	-.10**	-.09**	.04	.04	.38**	.40**	.30**	.28**	1			
TAC	.05	-.02	.06*	-.01	.01	.02	.23**	.21**	.17**	.16**	.29**	1		
TAL	.03	-.03	.02	-.01	.02	.05	.29**	.24**	.21**	.24**	.36**	.67**	1	
TATGW	-.01	-.08**	-.02	-.02	.07*	.07*	.26**	.23**	.20**	.25**	.31**	.52**	.58**	1

Cyberbullying Victimization (CV); Security Guard/Police (SGP); Code of Student Conduct (CSC); Reporting Threat (RT); Fair School Rules (FSR); Fair Punishment (FP); School Rule Strictly Enforced (SRSN); Students Know Punishment (SKP); Teacher Treats (TT); Teacher/Adult Cares (TAC); Teacher/Adult Listens (TAL); Teacher/Adult Tells Good Work (TATGW)

Note: *p < .05; **p < .01.

1, still, age is positively associated with the risk of cyberbullying victimization and sex is negatively associated with the risk of cyberbullying victimization.

Model 3 is the complete model which explores the relationship of school security, school rule environment, and social support with cyberbullying victimization while controlling for sex and age. The X² score for Model 3 was 845.51 with 13 degrees of freedom, which is statistically significant at the .001 level. The R² score for Model 3 is .104 and is improved from the R² score (.075) for Model 1 and the R² score (.093) for Model 2. None of the social support measures has a statistically significant relationship with cyberbullying victimization. Among the school security and school rule environment, there is no change in the previously establish relationships. Only students who know

Table 3: Logistic Regression of Cyberbullying Victimization

	Model 1			Model 2			Model 3		
	B	SE	OR	B	SE	OR	B	SE	OR
Control Variables									
Gender	-.10***	.20	.33	-1.12***	.20	.32	-1.15***	.20	.31
Age	.14**	.04	1.15	.14**	.04	1.15	.13**	.04	1.14
School Security									
Security guard/police	.03	.21	1.03	.01	.21	1.01	.01	.21	1.01
Code of student conduct	-.09	.57	.91	-.11	.57	.89	-.12	.57	.85
Reporting threat	.14	.27	1.15	.31	.28	1.36	.36	.29	1.43
School Rule Environment									
Fair school rules				-.06	.15	.93	-.11	.15	.89
Fair Punishments				.09	.12	1.10	.05	.13	1.05
School rule strictly enforced				-.04	.13	.95	-.06	.14	.93
Students know punishment				-.43**	.14	.64	-.44**	.14	.64
Social Support									
Teacher treats							.11	.14	1.12
Teacher/adult cares							.31	.20	1.37
Teacher/adult listens							.14	.23	1.15
Teacher/adult tells good work							-.24	.18	.78
-2 log likelihood	863.903			852.315			845.519		
Pseudo R ²	.075			.093			.104		

Note: *p < .05; **p < .01; ***p < .001.

punishment measure is still related to a decrease risk of cyberbullying victimization ($b = -.44$, *Odds Ratio* = .64, and $p < .01$). Also, the pattern among the student characteristics (sex and age) remains unchanged from Model 1 and 2. In short, these results reveal that: (1) as the student's awareness of school punishment rule improves, his or her risk of cyberbullying victimization decrease; (2) female students are more likely to experience cyberbullying victimization than male students; (3) older students are more likely to experience cyberbullying victimization.

Discussion

Routine activities theory has inspired a great deal of research on suitable target and motivated offender, whereas capable guardianship has not received as much attention. Especially, to date, few studies have been conducted to examine the relationship between capable guardian ship and the risk of cyberbullying victimization. Thus, the present study contributes to the literature revealing whether the student's risk of cyberbullying victimization is influenced by the school's guardianship: (1) school security, (2) rule fairness, and (3) social support. The findings of this study provide support for the theoretical explanation of the capable guardianship to mitigate the risk of cyberbullying victimization. The results suggest implications for theory and practice as well as important directions of future criminological research on cyberbullying.

In terms of school guardianship, first, school rule environment-students who knew punishment-was negatively associated with the risk of cyberbullying victimization, which partially provide support for hypothesis 2. In this regard, the more students are aware of school punishment rule, the more the odds for the risk of cyberbullying victimization decreases. This finding is similar to what Choi et al. (2019) reported. Second, the study showed that age was positively associated with the risk of cyberbullying victimization; however, sex was negatively related to the risk of cyberbullying victimization. In doing so, female and older students are more likely to experience cyberbullying victimization than male and younger students. Unfortunately, the finding of this study indicated that school security and social support were not significant variables, which do not support hypothesis 1 and 3.

Policy Implications

The findings of this study provide significant implications for practice. From a capable guardian perspective, the findings of this study in table 2 and 3 reveal the importance of efforts to reduce the risk of cyberbullying victimization through reinforcing the students' awareness level of school punishment for cyberbullying at school setting. Welsh (2001) and Welsh and colleagues (1999) insist that schools can act as guardians by effectively and fairly implementing their rules and discipline policies in order to

prevent school-based crime. It is essential to establish a school environment where the rules and disciplines are clearly specified in the student handbook and are effectively and fairly enforced (Gottfredson et al. 2005; Payne et al., 2003). Furthermore, the school must implement a cyberbullying awareness program so that students, teachers, school personnel draw attention to the problem and bullying-related rules and punishments, helping community where are able to build a crime-free place that reduces criminal opportunities and then eventually protect its students from cyberbullying victimization. To that end, the school articulately sends the message to potential offenders that bullying and cyberbullying activities will not be tolerated. In sum, strictly enforcing school rules and disciplines and implementing a cyberbullying awareness program will be the starting point of prevention of an intervention with cyberbullying.

Limitations

Although the findings of the present study contribute to the existing cyberbullying literature, it was limited in several ways. First, the secondary data utilized in this study was limited to the information and variables. The dependent variable (cyberbullying victimization) was measured through a dichotomous variable so that the bivariate relationship between capable guardianship and cyberbullying victimization might be reduced to non-significance in a multivariate model. For example, Choi et al.'s (2019) study support for teacher care measure is a significant predictor of cyberbullying victimization, which measured via additive scales range from 1 through 6. In contrast, teacher care variable is not significant predictor of reducing the risk of cyberbullying victimization in this study. Second, similar to the limitation of the prior cross-sectional studies, it was unable to establish causal ordering. Thus, for future study, it will be beneficial to use panel data to better establish proper temporal order between school's guardianship and cyberbullying victimization. Lastly, although the current study has attempted to explain how school security, school rule, and social support would act as preventative predictors on school crime victimization, there might be a limitation to clearly reveal the prevention strategies because items utilized in the analyses were not designed to inquiry cyberbullying preventative actions. Future studies should seek to improve upon the measurement issues stated above to increase the validity of research.

Conclusion

Routine activity theory is the dominant theory in crime victimization research. Consistent with the existing literature on cybercrime victimization, the findings of the study demonstrate that routine activity theory is viable framework to understand cyberbullying in the United States. In specific, this research suggests that enhancing capable guardian (i.e., school rule environment) can reduce cyberbullying victimization.

Also, students' demographic factors have the link to cyberbullying victimization. Finally, in order to establish effective school bullying prevention strategies, school administrators and policy makers need to consider enhancing guardianship strategies through accurately executing school rule environment and running cyberbullying awareness campaign at school.

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