Cyberbullying among adolescents in Bangkok, Thailand

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Abstract

Background/ Objectives: The rapid growth of communication technology gives rise to a new venue for bullying. Instead of a playground, bullying is being witnessed in online arena or the internet. This violence phenomenon called Cyberbullying, which includes sending messages, photos or video clip via chatroom, website or social media to defame, tease or to humiliate others. The purpose of this study was to examine the factors related to cyberbullying behaviors among middle school students, applying the concepts of the Theory of Planned Behavior (TPB)**.**

Methods: The research design was a cross-sectional survey. The questionnaires were used for data collecting targeted 354 students of Grade 7-9 of six secondary schools in Bangkok with parental permission met inclusion criteria. Data was analyzed by Pearson's product moment correlation coefficient and multiple regression analysis to predict cyberbullying behaviors.

Results: The participants experienced cyberbullying as victims (44.6%), perpetrators (33.1%) and bystanders or witnesses (67.8%). Pearson's product moment correlation showed that self-esteem, positive attitude towards cyberbullying (A), subjective norm towards cyberbullying (SN) and perceived behavioral control (PBC) cyberbullying were significantly associated with the behavioral intention and with being the perpetrators (p-value<.05). Moreover, the statistic revealed that behavioral intention was significantly related to being the perpetrators (p-value<.05). Multiple regression showed that intention to commit cyberbully, subjective norm, attitude towards cyberbullying, using social media via MySpace, and time of the Internet use of 4-5 hours per day could predict cyberbullying behavior as effective as 67.9% (β = 0.630, 95% CI = 0.546-0.713, β = 0.037, 95%CI = 0.011-0.063, β = 0.028, 95%CI = 0.001-0.056, β = -6.588, 95% CI = -10.156-3.019 and β = -1.249, 95% CI = -.2.478-.020, respectively).

Conclusions: The findings suggested that attitudes towards cyberbullying behaviors, subjective norms, and the use of social media oriented interventions may successfully address cyberbullying behaviors in adolescents.

Keywords: cyberbullying, perpetrator, theory of planned behavior

Introduction

Information technology now plays a vital role in all activities of the Thai people in modern age. Evidence of its impacts can be seen from the increasing uses of mobile phones, Internet access, and social networks[1].This phenomenon corresponds to a statistical report of the usage of computer, the internet, and mobile phones of the Thai population. During the past five years (2010-2014), it was found that the number of the users of computer, the Internet, and mobile phones was steadily rising. Also, it was found that Bangkok metropolitan area had the largest ratio of computer and internet users at a rate of 54.6% and 54.5%, respectively[2]. The users at the age range of 6-14 and 15-24 years old had higher proportion of internet use than those of other age groups and the rate was 58.2% and 69.7%, respectively[2]. This availability or convenient access to information

technology can lead to inappropriate online communication, which becomes a new form of violence through electronic communication or "cyberbullying"[3].

The magnitude of the problem and the prevalence of cyber bullying is approximately 20-40%, and are found mostly at school level[4, 5] especially among middle school students[6, 7]. According to a report of the US Department of Health and Human Services, Bureau of Justice Statistics and Cyberbullying Research Center, American students and American teenagers experienced cyberbullying as high as 52 and 33%, respectively[8]. This was consistent with the Annual Cyberbullying Survey 2013 of Ditch the Label Organization conducted among youth at 13-22 years of age in the United States, England and Australia. It was found that the samples in Asia were cyberbullied at a rate as high as 69%. The results of the survey of high school students in the central part of China revealed that 34.8% of the respondents were the perpetrators of cyberbullying and 56.9% were the victims of cyberbullying[9]. This was consistent with a survey by the Chinese University of Hong Kong, which found that one third of the respondents were cyberbullied and 32.1% committed cyberbullying against others.

In Thailand, the information from Thai Health Promotion Foundation indicated that that 37.2%of Thai teenage internet users were cyberbullied. In addition, the results of the study of the Wisdom Society for Public Opinion Research of Thailand (WPORT) in 2009 showed that 12-24-year-old youth in Bangkok had experience of being cyberbullied at a rate of 43.9%, 28.9%committed cyberbullying, and the rate of electronic harassment was higher than 50%[10]. A study conducted in 2012 found that 45.4% of Thai female teenagers were cyberbullied, 41.4% experienced online harassment, 5.3% were sexually harassed online, and 16.3% were recorded and published online in a malicious manner[11]. In addition, the results from a study of Sittichai[12]on cyberbullying behaviors of high school students in 3 southern provinces showed that 18.6% of the students were cyberbullied. This confirms that a certain number of Thai youth are now facing cyberbullying problems. It is, therefore, imperative that the related people realize and cooperate to find measures to prevent children and youth from this new form of bullying and harassment.

Cyberbullying is one type of violence where people who commit the crime cannot be detected, and whether it is an act of individuals or a group of individuals cannot be determined. Cyberbullying can be targeted to any person regardless of location and time[13]. It is impossible to control or inspect the action of cyberbullying and it can be repeated to constantly reinforce the violence. Interestingly, the victims of cyberbullying can become the perpetrators of the cyberbullying in the attempt to get revenge. Cyberbullied children experience an impact on their emotions and mental health, leading to frustration, indignation, and disappointment.[14, 15, 16] Being rejected by their peer group, teenagers easily lose their self-esteem and self-confidence[17, 18]. Inevitable impacts are deteriorating learning capacity, anxiety, and lack of social life skills and positively rewarding interactions with friends and surrounding peers.[19, 20] This cycle finally leads the victims to depression and thoughts of committing suicide.[18, 21, 22, 23] This was consistent with the results of a study of Nattarat Samoh, et al.[24], which found that people who are cyberbullied tend to feel irritated, depressed, stressed, and anxious. When they are unable to cope with those feelings, severe effects occur leading to depression and even attempts to commit suicide. From 2003 to 2013, reports of American adolescents who were cyberbullied indicated that 10 cases successfully committed suicide.[25] In 2012, a report in Canada revealed a female adolescent, whose photos were forwarded and nude video clips were posted on the internet, successfully committed suicide.[26] In Japan, 2008, three female students aged 13, 14 and 16 years old committed suicide due to pressure from cyberbullying[27]. Cyberbullying does not only affect the victims. Perpetrators themselves are also affected in a way that they suffer from low self-esteem.[18] This gradual impact when they become adults poses a high risk of maladaptive, antisocial, and potentially violent behaviors, which finally develops into a form of abuse.[28]

The studies of the factors associated with cyberbullying in the past focused on demographic, social, and environmental aspects, the results of which varied according to countries and cultures.[29,30,31] A study of cyberbullying in adolescence conducted by Vimoltip Mussikkapan[10] found that adolescents expressed their opinion that cyberbullying is perceived as normal and can be done deliberately by anyone. This was consistent with a study of the Chinese University of Hong Kong, which found that 44 percent of the students who were perpetrators admitted that cyberbullying was an exciting activity.[32] Similarly, a study of Sivaporn Pokpong and Vimoltip Mussikkapan[33] showed that 28 percent of the samples viewed that cyberbullying was a normal behavior that expressed a certain level of ability.

Psychological and psychosocial factors were examined in many studies. Heirman & Walrave[34] and Pabain & Vandebosch[35] reported that the attitudes of adolescents to cyberbullying were associated with the intention to develop cyberbullying behaviors. Also, a study of Doane, Pearson & Kelly[36] found that the low level of empathy of college students towards the cyberbullying victims was the predictor that they had positive attitudes towards cyberbullying. These positive attitudes towards cyberbullying were the factors that can predict that they had a high level of intention to abuse others. And, in turn, a high level of intention to abuse others became a predicting factor that individuals tended to commit cyberbullying at a higher frequency[37]. Furthermore, it was found that influences from peers, people with close relationship, favored people, and perception were related to beliefs and cyberbullying behaviors.[38] In other words, subjective norms correlated with the intention to commit cyberbullying.[34] This was consistent with a study of students in Grades 6-8 of Burton et al.[39], which found that the students who believed in subjective norms at a high level tended to develop aggressive behaviors physically and through the cyber world. Perceived behavioral control also correlated with the intention to commit cyberbullying behaviors.[34]It is possible that psychosocial and psychological factors, including attitudes, beliefs, values, perceptions, emotional control, self-esteem, and peer influence, were associated with cyberbullying in adolescents. The relationship of these factors can be linked with the intention to commit cyberbullying and cyberbullying behaviors in adolescents, according to Ajzen's Theory of Planned Behavior.[40,41] This theory stated that an individual's belief in a certain behavior, compliance with subjective norm, and perceived behavioral control were the factors that would determine whether they had an intention to commit the behavior or not.[40,41] Therefore, the Theory of Planned Behavior was adopted as a framework for this research study.

Objectives of the Study

1. To study the correlation among personal factors (age, sex, education level, academic performance, and self-esteem), attitudes towards cyberbullying, compliance with subjective norm towards cyberbullying, perceived behavioral control, and the intention to commit cyberbullying among middle school students.
2. To study the correlation among personal factors (age, sex, education level, academic performance, and self-esteem), attitudes towards cyberbullying, compliance with subjective norm towards cyberbullying, perceived behavioral control, and the intention to commit cyberbullying among middle school students.
3. To study the predictors of the intention to commit cyberbullying behavior and cyberbullying behavior among middle school students.

Materials and Methods

This observational research was designed in the format of a cross-sectional descriptive study.

The population in this study comprised grades 7-9 students who were studying in secondary schools under the Office of the Basic Education Commission (OBEC), Ministry of Education, Zones 1 and 2, Bangkok.

The subjects were male and female students who were studying in grades 7-9 in schools under the Office of the Basic Education Commission (OBEC), Ministry of Education, located in Bangkok. Multistage random sampling was conducted to obtain 354 samples in total. Data were collected in July 2016, which was analyzed after being approved by the Ethics Review Committee for Human Research, Faculty of Public Health, Mahidol University (MUPH 2016-032).

Inclusion Criteria of the Subjects

1. Inclusion Criteria
    - 1.1 Male and female students, studying in grades 7-9
    - 1.2 Students with parental permission
    - 1.3 Students who voluntarily completed the questionnaire
2. Exclusion Criteria
    - 2.1 Students who did not attend school on the date of data collection
    - 2.2 Students who had physical problems and were unable to complete the questionnaire
    - 2.3 Students with hearing impairment or special needs children

Study tools

The data collection tool comprised a set of questionnaires developed by the researcher based on the approach for constructing questions of Doane, Pearson & Kelly[34] and Heirman & Walrave[35] with permission. This questionnaire consisted of 1) personal factors: alternative choices, 2) questions about self-esteem: Likert 4-Rating Scale, 3) questions about attitude towards cyberbullying behaviors, subjective norms, perceived behavioral control cyberbullying behavior: Likert 5-Rating Scale, 4) questions about the intention to commit cyberbullying behavior and questions about cyberbullying behavior: Likert 4-Rating Scale. The reliability of all parts of the questionnaires were >0.70.

Data Analysis and Statistics

Data was analyzed using SPSS for Window version 18.0 Statistics used in the analysis are described below.

1. Correlation data of personal factors, attitudes toward cyberbullying, subjective norm, perceived behavioral control, the intention to commit cyberbullying behaviors, and cyberbullying behaviors were analyzed. Analysis for Pearson's product moment correlation coefficient was conducted.

2. The verification for the predictability of personal factors, factors of attitudes towards cyberbullying, subjective norm, perceived behavioral control cyberbullying behavior, the intention to commit cyberbullying behavior, and cyberbullying behavior was conducted using Multiple Regression Analysis. All variables were test for normality, linearity and multicollinearity, which met the criteria of the assumption.

Results and Discussion

Descriptive statistical analysis

Personal Factors

The average age of the students was 13.8 years old (standard deviation = 0.91). The number of female students (54.8%) was slightly higher than that of males. The subjects were studying in Grade 6 (37.3%), followed by Grade 9 (34.5%), and Grade 7 (28.2%). Academic performance was considered quite satisfactory (52.8%), with the GPA of 2.99 (standard deviation = 0.68). (Table 1)

Table 1 Demographic data of middle school students

Personal data	Number	Percent
Age (yr)		
12	29	8.2
13	107	30.2
14	132	37.3
15	88	24.3
$\bar{X}$ = 13.8, SD =0.91		
Sex		
Male	160	45.2
Female	194	54.8
Education level		
Grade 7	100	28.2
Grade 8	132	37.3
Grade 9	122	34.5
Academic performance		
High (3.01 - 4.0)	187	52.8
Medium (2.01 - 3.0)	130	36.7
Low (<1.01 - 2. 0)	37	4.5
$\bar{X}$ = 2.99, SD =0.68, min = 0.92, max = 4.0		

The cyberbullying experience

It was found that 44.69% of the students had been cyberbullied, 33.1% were cyberbullying perpetrators, and 67.8% had experiences by witnessing their friends being cyberbullied (Table 2).

Table 2 Traditional bullying and cyberbully experiences of middle school students

Experiences	Number	Percent
Traditional bullying		
victim		
Never	117	33.1
Yes	237	66.9
perpetrator		
Never	116	32.8
Yes	238	67.2
bystander		
Never	66	18.6
Yes	288	81.4
Cyberbullying		
victim		
Never	196	55.4
Yes	158	44.6
perpetrator		
Never	237	66.9
Yes	117	33.1
bystander		
Never	114	32.2
Yes	240	67.8

Relationship between personal factors and intention to commit cyberbullying

It was found that personal factors in terms of academic performance, accessing internet via smart phone and laptop, social networks: Facebook, myspace and YouTube, internet use2-3 hours per day, using internet before class, being victims, perpetrators and bystanders of traditional bullying, being victims and perpetrators of cyberbullying, self-esteem, positive attitude towards cyberbullying, subjective norms towards cyberbullying, and perceived behavioral control to cyberbullying, correlated with the intention to commit cyberbullying in middle school students, with statistical significance of p-value <.05. The correlation values (r) were -.191, -.180, -.095, -.122, .175, -.175, -.091, .157, .129, .119, .144, .141, .170, .665, .701, .150 and -.146, respectively (Table 3).

Relationship between personal factors and cyberbullying behavior. It was found that personal factors in terms of educational level grade 8, academic performance, accessing internet via smart phone and laptop, social networks: Facebook, Instagram and YouTube, internet use4-6 days per week, internet use 2-3 hours and 4-5 hours per day, using internet before class, being victims, perpetrators and bystanders of traditional bullying, being victims and perpetrators of cyberbullying, self-esteem, positive attitude towards cyberbullying, subjective norms towards cyberbullying, and perceived behavioral control to cyberbullying, correlated with cyberbullying behavior in middle school students, with statistical significance of p-value<.05. The correlation values (r) were .092, -.212,-.180, -.116,-.095, -.100, -.155, -.095, -.096, -.113, .183, .135, .100, .102, .165, .159, .028, .626, .660, .116, -.174 and .804, respectively (Table 3).

Table 3 Relationship between personal factors, attitude towards cyberbullying, subjective norms, perceived behavioral control to cyberbully and the intention to commit cyberbullying and cyberbullying behavior among middle school students (n = 354)

Factors	Pearson's product moment correlation coefficient			
	intention to commit cyberbullying		Cyberbullying behavior	
	r	p-value	r	p-value
Age	.077	.075	.072	.089
male (ref: female)	.073	.085	.045	.199
Education level (ref: grade 6)				
Grade 7	.083	.060	.092	.041*
Grade 8	-.014	.394	-.029	.293
Academic performance	-.191	.000*	-.212	.000*
Parents status (ref: married)				
divorced	-.046	.192	-.016	.385
Separated (not divorced)	.029	.295	.049	.179
Mother and/or father died	-.041	.222	-.040	.228
People who live with (ref: parents)				
Father or mother	.038	.237	.056	.146
Siblings	-.068	.101	-.061	.126
Family violence (ref: none)				
Parents' argument	.014	.394	-.038	.235
Siblings' argument	-.024	.326	-.055	.153
Parents hit each other	-.006	.452	.006	.458
Siblings hit each other	.045	.197	.039	.231
Verbal abuse by parents	.064	.115	-.004	.469
Verbal abuse by siblings	.083	.059	.068	.100
Physical abuse by parents	.038	.236	.059	.135
Facebook (ref: don't use)				
Smartphone	-.180	.000*	-.180	.000*
Tablet	.070	.093	.041	.222
Personal computer	-.010	.424	-.040	.225
Laptop	-.095	.037*	-.116	.015*
Social network (ref: none)				
Facebook	-.122	.011*	-.095	.037*
LINE	-.047	.188	-.086	.052
Twitter	.035	.257	-.011	.416
Instagram	-.079	.068	-.100	.030*
Skype	.076	.076	.043	.210
Myspace	.175	.000*	.040	.229
YouTube	-.175	.000*	-.155	.002*
Google plus	.049	.177	.050	.175
Frequency of internet used in 1 week (ref: no)				
4-6 day	-.061	.127	-.095	.037*
everyday	-.026	.315	.000	.496
Frequency of internet used in 1 day (ref: no)				
2-3 hr	-.091	.043*	-.096	.036*
4-5 hr	-.055	.151	-.113	.017*
6-7 hr	-.009	.435	.046	.193
>7 hr	.049	.181	.059	.132

* Significant, $p < 0.05$

Table 3 Relationship between personal factors, attitude towards cyberbullying, subjective norms, perceived behavioral control to cyberbully and the intention to commit cyberbullying and cyberbullying behavior among middle school students (n = 354) (cont.)

Factors	Pearson's product moment correlation coefficient			
	intention to commit cyberbullying		Cyberbullying behavior	
	r	p-value	r	p-value
Period of internet use				
Before class	.157	.002*	.183	.000*
Lunch break	-.046	.192	-.046	.192
After class	-.013	.405	-.024	.329
Before bed	-.003	.478	-.010	.425
Midnight until 5 am	-.009	.435	-.060	.129
Bully experiences (ref: never)				
Victim	.129	.008*	.135	.006*
Perpetrator	.119	.013*	.100	.031*
Bystander	.144	.003*	.102	.028*
Cyberbully experiences (ref: never)				
Victim	.141	.004*	.165	.001*
Perpetrator	.170	.001*	.159	.001*
Bystander	.068	.100	.028	.301
Self-esteem	.665	.000*	.626	.000*
Attitude towards cyberbullying	.701	.000*	.660	.000*
Subjective norms	.150	.002*	.116	.015*
Perceived behavioral control	-.146	.003*	-.174	.000*
Intention to commit cyberbully			.804	.000*

* Significant, $p < 0.05$

Multiple Regression Analysis

The appropriateness of the multiple regression equation of the overall variables for intention to commit cyberbullying

Three independent variables were found, including subjective norms towards cyberbullying behaviors, attitude towards cyberbullying behaviors, and social network use: Twitter, was were related to the intention to commit cyberbullying behaviors among middle school students at a high level and in the same direction. The 3 variables had the capability to explain the variation of scores of cyberbullying behaviors as effectively as 53.7% (Table 4).

Table 4 Predicting factors for the intention to commit cyberbullying

Factors	b	SE	Beta	t	p-value	95.0% CI for B	
						Lower	Upper
Subjective norm	.128	.015	.467	8.481	.000	.099	.158
Attitude towards cyberbullying	.097	.017	.316	5.745	.000	.064	.130
Twitter	1.696	.860	.072	1.973	.049	.006	3.387
Constant = 16.401	Adjusted $R^2 = 0.537$			$F_{df\text{-}3} = 185.7$	$p < 0.001$		

a. Dependent Variables: Behavioral Intention to Cyberbully

The appropriateness of the multiple regression equation of the overall variables for cyberbullying behaviors

Five independent variables were found, including intention to commit cyberbullying behaviors, subjective norms, positive attitude towards cyberbullying behaviors, type of social network use: Myspace and

time of internet use: 4-5 hours per day. The 5 variables had the capability to explain the variation of scores of cyberbullying behaviors as effectively as 67.9% (Table 5).

Table 5 Predicting factors for cyberbullying behaviors

Factors	b	SE	Beta	t	p-value	95.0% CI for B	
						Lower	Upper
Intention to commit	.630	.042	.658	14.884	.000	.546	.713
Subjective norms	.037	.013	.139	2.775	.006	.011	.063
Attitude towards cyberbullying	.028	.014	.097	2.013	.045	.001	.056
Myspace	-6.558	1.814	-.111	-3.631	.000	-10.156	-3.019
time of internet use 4-5 hr/d	-1.249	.625	-.060	-1.998	.046	-2.478	-.020
Constant = 5.989	Adjusted R^2 = 0.679			$F_{df\text{-}5}$ = 150.67		p < 0.001	

a. Dependent Variables: Cyberbullying Behaviors

Discussion

Based on the results of the study, the sampled students experienced certain forms of cyberbullying whether as the victims being cyberbullied (44.6%), the perpetrators of cyberbullying (33.1%), or as the witnesses observing the events of cyberbullying (67.8%). The results showed that the incidence of cyberbullying among middle school students in Bangkok prevailed. This was consistent with the results of the study of the Wisdom Society for Public Opinion Research of Thailand (WPORT) in that the youth in Bangkok were cyberbullied (43.9%) and became the perpetrators of cyberbullying (28.9%)[10]. In addition, cyberbullying was not evident only in Bangkok. A study by Sittichai[12] found that middle school students in 12 high schools located in the 3 southern Provinces of Thailand experienced cyberbullying at a rate of 18.6 percent[12]. At a global scale, the problems and prevalence of cyberbullying were approximately 20-40% and were predominantly found at school level[4, 5] especially in the secondary school level[6, 7]. It was obvious that cyberbullying occurred in an uncontrollable manner and rapidly spread in accordance with the relentless development of current communication technology. This implied that adolescents in the digital age both in the present and in the future may be involved in cyberbullying in certain forms or in all forms.

Self-esteem is the perception in which an individual realizes that they are valuable and important to people with close relationships and the surrounding people. The results of the study found that self-esteem was associated with the intention to commit cyberbullying behaviors and cyberbullying behaviors of the middle school students (r = 0.665, p-value<.05, r = 0.626, p-value<.05, respectively). This was in tandem with a study of Brewer & Kerslake[42], which found that self-esteem was a predictor of bullying perpetrators and the cyberbullied victims. People with low self-esteem were often treated as the victims of cyberbullying. A plausible explanation was that adolescents were susceptible to changing thoughts and emotions, resulting in confused and sensitive personalities[43]. A sense of being worthless which cannot be expressed emotionally in the real world may encourage adolescents to do so in the virtual world. This, however, was contradictory to the result of a study of Brack & Caltabiano[44], which found that self-esteem had no effect on cyberbullying behaviors. Nonetheless, the researcher was of the opinion that the study in this issue should be conducted with the larger sample size.

Theory of Planned Behavior was applied by the researcher in this study. The results showed that *attitudes toward cyberbullying behaviors* (r = 0.701, p-value<.05, r = 0.660, p-value<.05, respectively), *subjective norm towards cyberbullying behaviors* (r = 0.150, p-value<.05, r = 0.116, p-value<.05, respectively), and *perceived behavioral control in cyberbullying behaviors* (r = -0.146, p-value<0.05, r = -0.174, p-value<.05, respectively) correlated with the intention to commit cyberbullying behaviors and cyberbullying behaviors of middle school students. It was also found that self-esteem, attitudes towards cyberbullying, subjective norm, and perceived behavioral control in cyberbullying behaviors can serve as the predictors of the intention to commit

cyberbullying behaviors as effectively as 53.7%, and can predict cyberbullying behaviors as effectively as 67.9%, which was in line with the results from a study of Heirman & Walrave[34] and Pabian & Vandebosch[35] in

that the attitudes towards cyberbullying of adolescents were positively correlated with their willingness to commit cyberbullying and were the decided factors to predict cyberbullying behaviors. A study of Heirman & Walrave[34] and Doane, *et al.*[36] also found that subjective norm was the predictor of the intention to cyberbully. Moreover, a study of Lazuras, *et al.*[45] found that social norms can predict a willingness to commit cyberbullies. In addition, the findings from Heirman & Walrave.[34] Lazuras, *et al*.[45] showed that self-efficacy in controlling cyberbullying behaviors can serve as a predictor of the intention to commit cyberbullying behaviors.

Factors predicting intention to commit cyberbullying behaviors among middle school students

The study found that there were only 3 independent variables that influenced the scores of intention to commit cyberbullying behaviors in the middle school students. Those independent variables were positive attitudes towards cyberbullying behaviors, subjective norms on cyberbullying behaviors, and the use of social media network via Twitter. The three variables, when processed in the equation, had the capability to co-predict intention to commit cyberbullying behaviors as accurately as 53.7% (Adjusted $R^2 = 0.537$). This finding was in consonance with that of Heirman & Walrave[34], stating that the adolescence attitudes towards cyberbullying positively correlated with their intention to commit cyberbullying behaviors. Also in line was a study of Pabian & Vandebosch[35], which found that positive attitude towards cyberbullying was the best factor predicting intention to commit cyberbullying behaviors. It was also consistent with a study of Doane, et al.[36], which found that positive attitudes towards cyberbullying and subjective norms were the factors predicting intention to commit cyberbullying behaviors[36]. Furthermore, the findings of Lazuras, et al.[45] suggested that social norms of Greek adolescent students were the factor predicting intention to commit cyberbullying behaviors. From the research results from this study, it can be concluded that positive attitude toward cyberbullying behaviors and subjective norms on cyberbullying behaviors had the capability to co-predict intention to commit cyberbullying behaviors in the middle school students, which was in agreement with the Theory of Planned Behavior and the hypothesis of the study.

Factors predicting cyberbullying behaviors among middle school students

The study found that there were 5 independent variables that influenced the scores of cyberbullying behaviors in the middle school students. Those independent variables were intention to commit cyberbullying behaviors, subjective norms on cyberbullying behaviors, positive attitudes towards cyberbullying behaviors, the use of social media network: MySpace and time of internet used: 4-5 hours per day, with statistical significance of 0.05. All five variables, when processed in the equation, had the capability to co-predict the scores of cyberbullying behaviors as accurately as 67.9% (Adjusted $R^2 = 0.679$). This was line with a study of Heirman & Walrave[34], which found that the attitude of the teenagers towards cyberbullying behaviors was the best factor predicting cyberbullying behaviors and was the most important factor predicting cyberbullying behaviors. Similarly, a study of Festl[46] found that positive subjective norms were the factor predicting cyberbullying behaviors. In addition, Shirley, et al.[47] found that attitudes towards cyberbullying behaviors and subjective norms on cyberbullying behaviors were correlated in a reverse direction to the status of cyberbullied victims. It can be explained that the sampled students had certain beliefs that cyberbullying behaviors were easily practiced at all times and regardless of places. Doing that was an enjoyable experience and the action cannot be traced. Imitation of the reference group, in this study was close friends, allowing the students to be accepted by their friends, which was in line with Theory of Planned Behavior and the hypothesis of this study.

Based on the findings of this study, it can be concluded that positive attitudes toward cyberbullying behaviors and subjective norms on cyberbullying behaviors were related to intention to commit cyberbullying behaviors and cyberbullying behaviors in the middle school students. They had the capability to co-predict intention to commit cyberbullying behaviors as well as cyberbullying behaviors in middle school students, which

was congruent with the Theory of Planned Behavior and the hypothesis of this research study. However, though, in this study, perceived behavioral control of cyberbullying behaviors did not have the capability to co-predict intention to commit cyberbullying behaviors as well as cyberbullying behaviors in the middle school students, the results from Pearson's product-moment correlation showed that behavioral control of cyberbullying behaviors was negatively correlated with intention to commit cyberbullying behaviors as well as cyberbullying behaviors in the middle school students. The researcher is of the view that this factor is important and worthwhile for further study.

Suggestions from the research

From the results of this study, it can be concluded that, in seeking preventive measures against cyberbullying behaviors in adolescence, the factors of attitudes towards cyberbullying behaviors, subjective norms, and the use of social media should be taken into account for planning and designing appropriate intervention to prevent and minimize the problems that arose from adolescent cyberbullying behaviors.

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