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Cyberbullying among School Going Adolescents. What Are the Associated Factors?

Bukola. Olutola[1], Carmen. Whitehouse[1*],

[1] Public Health. Independent Institute of Education (IIEMSA). South Africa

*** Corresponding author email address**: bolutola@iiemsa.co.za

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A B S T R A C T

Objective: Bullying either face-to face or cyber bullying has been one of the problems experienced among adolescents. Cyber-bullying is a type of bullying that is done over the internet, and it is a new phenomenon because of the exposure of children to social media through the internet. To explore the factors associated with cyber-bullying, this study looked at cyber-bullying among the school going adolescents in Thailand in 2021.

Methods and Materials: The study used the Thailand Global School-Based Student Health Survey 2021. Data analysis was conducted using both the descriptive analysis and multivariable logistic regression.

Findings: Of the 5661 adolescents who participated in the study, 46.9% (2504) were males. Fifteen percent (n=790) of the respondents reported that they had ever been cyber-bullied in the past 12 months while 20% (n=1172) reported that they had ever been bullied on school property in the past 12 months. The prevalence of physical bullying (23.7% vs. 16.7%; p=0.001) and cyber-bullying (16.9% vs. 13.3%; p=0.014) was higher among male respondents than their female counterparts. Frequent feeling of loneliness, and suicide consideration were associated with cyber-bullying. Those who smoked cigarette between 1 and 9 days (AOR: 1.70; 95% Conf. Int: 1.29-2.24) and those who smoked between 10 and 30 days (AOR: 2.41; 95% Conf. Int: 1.47-3.93) in the past 30 days were more likely to have ever been cyber-bullied in the past 12 months compared to non-smokers.

Conclusion: This study showed that suicide consideration, cigarette smoking, and loneliness were associated with cyber-bullying.

Keywords: *Cyber-bully, Adolescents, Global School-Based Health Survey, Loneliness, Suicide.*

1. Introduction

Bullying is a form of aggressive behavior in which someone intentionally and repeatedly causes another person injury or discomfort. Bullying can take the form of physical contact, words, or more subtle actions (American Psychological Association). Bullying in general has been found to be a big problem among adolescents in high schools all over the world. It can come in different forms, it can be either traditional face-to-face bullying or cyber bullying.

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), almost one in three students (32%) has been bullied by their peers at school at least once in the last month. In all regions except Europe and North America, physical bullying is the most common (UNESCO, 2019). Worldwide, cyberbullying affects as many as one in ten children. More than one in three students (36%) has been involved in a physical fight with another student and almost one in three (32.4%) has been physically attacked at least once in the past year (UNESCO, 2019). With the rise of internet usage among adolescents a new era of violence and aggression have emerged resulting in the rise of cyber bullying. Cyberbullying can be defined as "wilful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices" and is deemed to have an even greater impact than traditional forms of bullying since the perpetrators have the ability to stay anonymous (Doane et al., 2016).

Cyberbullying has similar consequences to traditional bullying but seem to have longer lasting impact on its victims. Because, they are more likely to suffer mental health problems such as depression and suicidal ideation, as well as school problems which include suspension, detention, skipping classes and carrying a weapon to school (Doane et al., 2016). Consequently, cyber bullying has become a great public health concern as it can have a tremendous and long lasting negative impact on adolescents and can lead to becoming cyber bullies and even criminals in the future (Rodríguez-Enríquez et al., 2019). Furthermore, cyber bullying can lead to a range of other public health problems including substance use and smoking.

Numerous studies have been conducted, to investigate the harmful effects of cyberbullying among school aged children as well as college students, all of which have shown that there are particular characteristics associated with cyberbullying which include gender, age, race, and ethnicity. According to Chan et.al, adolescents who used alcohol more frequently were more likely to engage in cyber aggression over time with girls reporting greater aggression than boys and contrastingly boys reporting more frequent drinking than girls (Chan et al., 2019).

Cyberbullying has become a public health concern due to the long term impact it can have on its victims. Based on the socio-ecological model there are various micro, meso and macro level factors which increase the risk of cyberbullying perpetration.

Micro-level factors include individual social, emotional and cognitive factors which are the most affected in cyberbullied victims (UNICEF, 2024). Cyberbullying has an adverse effect on its victims which can have long term consequences as it can lead to increased rates of delinquency, criminogenic behaviour and even cyberviolence in adulthood. Additionally, it can have a lasting impact on adolescents as it can lead to anxiety, depression, suicidal ideation, and feeling unsafe which can have a detrimental impact on their overall academic performance (Khine et al., 2020).

Meso-level factors which influence cyberbullying include parent-child relationships, peer influences and school environments. There are various socio demographic factors that increase the risk of cyberbullying some of which include peer influence at school and parental support. Adolescents tend to lean towards cyberbullying when they surround themselves with individuals who are cyberbullies as they want to fit in. Moreover, a lack of parental support has shown to increase the adverse effects experienced by cyber bullied victims as they feel as if they do not have any support and that the best way to end the bullying was to take an adverse action like suicide (Li et al., 2023).

Macro-level factors include societal norms such as cultural and religious traditions as well as technology laws and policies which are implemented at a country level (UNICEF, 2024). There are various social norms which could have an effect on cyberbullying such as male-dominated cultures where females tend to have less of a say in matters that effect their health. For example, females might engage in cyberviolence as a way to deal with the issues surrounding their everyday lives. Similarly, males might engage in cyberviolence because cultural norms dictate that public displays of anger and frustration is wrong, which leads to cyberviolence due to its anonymity (Doane et al., 2016).

In addition, many South-East Asian countries have not adopted any telecommunications laws or policies against cyberviolence to help protect victims from cyberbullying and thus the prevalence of cyberbullying in these countries remain high.

Cyberbullying has been on the rise worldwide but in South-East Asian countries it has only started gaining popularity in recent years. According to Kwan & Skoric, the prevalence of cyberbullying among Facebook users was 59.4% in Singapore (Kwan & Skoric, 2013), with 39.7% being reported in Malaysia (Balakrishnan, 2015) and 59% of cyberbullying victimisation being reported in Indonesia which is higher that nationally reported rates of cyberbullying in the United States (36.5%) (Hinduja &

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Patchin; Lee et al., 2021). In South Korea, 33.5% of respondents were reported to have experienced cyberbullying in 2019. This increased from 32.8% in 2018 and 26% in 2017 (National Information Society Agency). Cyberbullying among adolescents in South-East Asia is a big problem, therefore the aim of this study was to investigate the factors associated with cyberbullying among adolescents in Thailand and if the factors were different from the ones associated with the traditional face-to face bullying.

2. Methods and Materials

2.1. Study Design and Participants

The study used the Thailand Global School-based Survey (GSHS) 2021. The survey used a self-administered questionnaire to obtain data from grades 7-12 adolescents in Thailand. A two-stage cluster sampling design was used to present representative data of grades 7-12 students in Thailand. At the first stage, schools were selected with probability proportional to enrolment size. At the second stage, classes were randomly selected and all students in selected classes were eligible to participate. The school response rate was 92%, the student response rate was 90%, and the overall response rate was 83%. A total of 5,661 students participated in the Thailand GSHS. Data on various health behaviours were captured through the survey. Questions on alcohol consumption, drug use, sexual behaviours, tobacco use, violence and unintentional injury among others were asked (World Health Organization, 2023).

2.2. Measures

2.2.1. Outcome Variables

The outcome of interest was "ever been cyber bullied". In the GSHS, the respondents were asked if they had ever been cyberbullied during the past 12 months prior to the survey using the Question "During the past 12 months, have you ever been cyber-bullied?" Options included "Yes" and "No". Another outcome variable used was bullying (face-to face bullying) on the school premises. The learners were asked if they had ever been bullied on the school property during the past 12 months. The options included "Yes" and "No".

2.2.2. Independent Variables

Respondents were asked how often they felt lonely during the past 12 months and the options included "Never, Rarely, Sometimes, Most of the time and Always". Other independent variables included sociodemographic characteristics of the respondents such as age, gender, grade/class, lack of sleep at night, consideration of suicide, suicide plan, and suicide attempt during the past 12 months. They were also asked about the number of friends they had, current smoking, alcohol drinking and marijuana use status, parental understanding of their problems, parent's knowledge of what the respondents use their free time for, bullying on and outside of the school premises. They were also asked if they had ever had sex.

2.3. Data analysis

Data analysis was performed using STATA version 18. Weighting factor was used to account for selection probabilities and effect of the cluster sample design used in the GSHS. Both descriptive and inferential analyses were conducted. Chi-square tests were performed to know the group differences for categorical variables. Multi-variable adjusted logistic regression was carried out using the backward deletion approach to determine the factors associated with cyber-bullying and face-to face bullying. All tests were two-tailed and statistical significance was set at $p < 0.05$.

3. Findings and Results

Of the 5661 respondents, 15% (n=790) of the respondents reported that they had ever been cyber-bullied in the past 12 months prior to the survey. Also, twenty percent (n=1172) and 10.5% (n=590) of the respondents reported that they had ever been bullied on school property and outside of the school property respectively. Grade 7 (22.5%) had the highest percentage of respondents followed by grades 8 (21.8%) and 9 (21.1%). More than 17% reported that they considered suicide in the 12 months preceding the survey and almost 20% reported that they had ever had sexual intercourse (Table 1).

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Table 1

Characteristics of the study respondents (N=5661)

Characteristic	%(n)
Gender	
Male	46.9% (2504)
Female	53.1% (3135)
Age (Years)	
11	0.10% (8)
12	2.7% (224)
13	20.0% (1439)
14	19.8% (977)
15	21.5% (1205)
16	13.5% (649)
17	11.7% (531)
18	10.6% (624)
Grade	
7	22.5% (1743)
8	21.8% (905)
9	21.1% (1288)
10	12.3% (573)
11	11.4% (509)
12	10.8% (627)
Ever got drunk with alcohol	
No	70.0% (4134)
Yes	30.5% (1337)
Feeling of loneliness	
Never	26.0% (1427)
Rarely	26.2% (1490)
Sometimes	29.0% (1676)
Most of the times	12.2% (670)
Always	6.7% (357)
Inability to sleep in past 12 months	
Never	25.4% (1444)
Rarely	30.1% (1678)
Sometimes	28.5% (1608)
Most of the times	10.0% (555)
Always	6.0% (322)
Suicide consideration in the past 12 months	
No	82.6% (4596)
Yes	17.4% (938)
Suicide plan in the past 12 months	
No	84.5% (4693)
Yes	15.5% (837)
Suicide attempt in past 12 months	
None	84.9% (4776)
1-3 times	11.1% (595)
4-6 times	4.0% (242)
Number of close friends	
0	6.3% (366)
1	6.6% (418)
2	10.1% (553)
3 or more	76.9% (4274)
Cigarette smoking in past 30 days	
None	88.5% (4903)
1-9 days	7.9% (425)
10-30 days	3.6% (217)
Alcohol consumption in past 30 days	
None	70.9% (4163)
1-9 days	24.7% (1155)

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10-30 days	4.4% (204)
Marijuana use in lifetime	
None	93.0% (5074)
1-9 times	4.4% (222)
10 or more times	2.6% (130)
Marijuana use in past 30 days	
None	95.1% (5247)
1-9 times	3.0% (150)
10 or more times	1.9% (94)
Ever had sexual intercourse	
No	80.2% (4456)
Yes	19.8% (902)
Age at first intercourse	
None	84.7% (4802)
11-14 years	7.6% (330)
15-18 years	7.7% (351)
Understanding of worries and problems by parents in past 30 days.	
Never	31.4% (1609)
Rarely	18.6% (1059)
Sometime	24.0% (1384)
Most of the time	14.0% (784)
Always	12.0% (715)
Parents knowing what child did during free time in past 30 days	
Never	17.2% (940)
Rarely	17.1% (951)
Sometime	22.7% (1322)
Most of the time	21.1% (1174)
Always	21.8% (1227)
Bullied on school property in past 12 months	
No	80.0% (4362)
Yes	20.0% (1172)
Bullied but not on school property in past 12 months	
No	89.5% (4949)
Yes	10.5% (590)

In Table 2, the prevalence of cyber-bully was higher among the male than the female respondents (16.9% vs. 13.3%; p=0.014). However, there was no difference in the prevalence of cyber-bully across the ages and grades of the respondents. This is different from what was observed for traditional bullying on school premises which showed that the prevalence of bullying was higher among those from 11 to 15 years and lower among the 16 to 18 years (p<0.001). This is also reflected in the grades, grades 7-9 students had the higher prevalence of traditional bullying on the school premises than grades 10-12 (p<0.001). The prevalence of cyber-bullying was higher among those who reported that they had ever got drunk with alcohol than those who had not (20.1% vs. 12.2%; p<0.001) but there was no significant difference in the prevalence of traditional face-to face bullying among these two groups. The more the inability to sleep, the more the prevalence of cyber-bully (p<0.001) and face-to face bullying (p<0.001). The prevalence of cyber-bullying was higher among those who considered suicide in the past 12 months than those who did not (26.7% vs. 12.1%; p<0.001), those who planned suicide in the past 12 months than those who did not (26.7% vs. 12.3%; p<0.001) and among those who attempted suicide than those who did not (62.9% vs. 12.8%; p<0.001). Furthermore, the more times in the past 30 days that cigarette was smoked, alcohol consumed, and marijuana used, the more the prevalence of cyber-bullying among the Thai adolescents. In contrary, no difference was observed in the prevalence of face-to-face bullying on the school premises with respect to alcohol consumption in past 30 days and marijuana use during lifetime.

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Table 2

Prevalence of Cyberbullying and Bullying on school premises among Thai adolescents

Characteristic	Cyberbullying %(n)	P-value	Bullying on school premises %(n)	P-value
Gender		0.014		0.001
Male	16.9% (392)		23.7% (623)	
Female	13.3% (395)		16.7% (543)	
Age (Years)		0.356		<0.001
11	7.03% (1)		40.6% (3)	
12	11.7% (25)		24.3% (57)	
13	16.4% (216)		24.7% (353)	
14	16.8% (146)		26.5% (241)	
15	16.1% (180)		20.3% (249)	
16	13.0% (73)		13.8% (97)	
17	13.6% (70)		13.9% (84)	
18	11.7% (79)		12.3% (88)	
Grade		0.298		<0.001
7	16.1% (259)		24.9% (440)	
8	17.0% (142)		25.7% (212)	
9	15.1% (180)		20.4% (271)	
10	14.8% (66)		15.6% (91)	
11	12.4% (65)		11.5% (76)	
12	11.4% (76)		12.0% (79)	
Ever got drunk with alcohol		<0.001		0.419
No	12.2% (485)		20.1% (864)	
Yes	20.1% (259)		18.9% (260)	
Feeling of loneliness		<0.001		<0.001
Never	9.8% (141)		13.5% (192)	
Rarely	13.1% (181)		16.8% (270)	
Sometimes	14.7% (226)		20.7% (355)	
Most of the times	22.5% (133)		27.6% (202)	
Always	29.8% (101)		41.1% (142)	
Inability to sleep in past 12 months		<0.001		<0.001
Never	9.4% (135)		11.9% (187)	
Rarely	13.5% (199)		18.0% (320)	
Sometimes	14.8% (233)		21.8% (366)	
Most of the times	24.5% (122)		28.1% (164)	
Always	29.5% (92)		40.5% (119)	
Suicide consideration in the past 12 months		<0.001		<0.001
No	12.1% (518)		16.9% (826)	
Yes	26.7% (242)		33.7% (311)	
Suicide plan in the past 12 months		<0.001		<0.001
No	12.3% (543)		17.2% (850)	
Yes	26.7% (215)		32.9% (282)	
Suicide attempt in past 12 months		<0.001		<0.001
None	12.8% (561)		17.4% (878)	
1-3 times	24.0% (145)		33.6% (194)	
4-6 times	38.9% (76)		40.2% (87)	
Number of close friends		0.002		<0.001
0	24.6% (84)		30.3% (113)	
1	17.6% (67)		29.8% (119)	
2	17.3% (82)		22.8% (124)	
3 or more	13.5% (544)		18.0% (810)	
Cigarette smoking in past 30 days		<0.001		0.003
None	13.5% (614)		19.0% (975)	
1-9 days	22.3% (94)		28.2% (120)	
10-30 days	30.1% (55)		25.0% (49)	
Alcohol consumption in past 30 days		<0.001		0.297

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None	11.6% (469)		19.1% (843)	
1-9 days	21.2% (233)		22.1% (247)	
10-30 days	27.2% (49)		20.5% (44)	
Marijuana use in lifetime		<0.001		0.3812
None	13.3% (642)		19.4% (1040)	
1-9 times	24.7% (53)		21.9% (46)	
10 or more times	41.4% (40)		25.5% (27)	
Marijuana use in past 30 days		<0.001		<0.001
None	13.7% (681)		19.4% (1073)	
1-9 times	33.5% (35)		22.1% (28)	
10 or more times	48.1% (32)		42.7% (26)	
Ever had sexual intercourse		<0.001		0.6738
No	12.1% (513)		17.4% (149)	
Yes	21.6% (192)		18.8% (86)	
Age at first intercourse		<0.001		0.009
None	12.7% (587)		20.0% (996)	
11-14 years	27.3% (86)		24.8% (79)	
15-18 years	20.0% (65)		11.9% (54)	
Understanding of worries and problems by parents in past 30 days.		0.039		0.326
Never	17.7% (273)		21.4% (361)	
Rarely	15.6% (155)		19.1% (213)	
Sometime	13.8% (179)		19.8% (284)	
Most of the time	12.8% (88)		19.0% (155)	
Always	11.7% (72)		16.2% (124)	
Parents knowing what child did during free time in past 30 days		0.005		0.033
Never	20.1% (180)		22.8% (222)	
Rarely	16.0% (136)		23.6% (234)	
Sometime	14.0% (178)		18.9% (270)	
Most of the time	14.2% (152)		19.1% (231)	
Always	11.7% (131)		16.1% (19	
Bullied on school property in past 12 months		<0.001	-	-
No	10.7% (421)		-	
Yes	30.3% (334)		-	
Bullied but not on school property in past 12 months		<0.001		<0.001
No	11.3% (525)		14.5% (756)	
Yes	45.3% (239)		66.6% (390)	

In the multivariable adjusted logistic regression, those who always felt lonely during the past 12 months were more likely to have ever been cyber-bullied compared to those who never felt lonely (AOR: 2.57; 95% Conf. Int: 1.60-4.14). Those who did not consider suicide in the past 12 months were less likely to have ever been cyber-bullied (AOR: 0.62; 95 Conf. Int: 0.47-0.83). However, there was no association between suicide attempt and suicide plan and cyber-bullying. Furthermore, respondents who smoked for 10-30 days (AOR: 2.41; 95% Conf. Int: 1.47-3.93) and 1-9 days (AOR: 1.70; 95% Conf. Int: 1.29-2.24) were more likely to have ever been cyber-bullied compared to those who never smoked in during the past 30 days. Nonetheless, there was no association between alcohol consumption and marijuana use during the past 30 days and being cyber-bullied. (Table 3).

Table 3

Factors associated with cyberbullying among Thai school children

Characteristic	Adjusted Odds Ratio (AOR)	p-value
Feeling of loneliness		
Never	1.0	
Rarely	1.45 (1.06-1.98)	0.021

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Sometimes	1.42 (0.90-2.23)	0.129
Most of the times	1.86 (1.12-3.10)	0.018
Always	2.57 (1.60-4.14)	<0.001
Suicide consideration in the past 12 months		
Yes	1.0	
No	0.62 (0.47-0.83)	0.002
Cigarette smoking in past 30 days		
None	1.0	
1-9 days	1.70 (1.29-2.24)	<0.001
10-30 days	2.41 (1.47-3.93)	0.001
Ever had sexual intercourse		
Yes	1.0	
No	0.69 (0.50-0.97)	0.034
Bullied on school property in past 12 months		
Yes	1.0	
No	0.45 (0.34-0.60)	<0.001
Bullied but not on school property in past 12 months		
Yes	1.0	
No	0.26 (0.20-0.35)	<0.001

Changes over time in the experimental group, as shown in Table 3, indicated significant differences in social anxiety and social adaptation in the treatment group at post-test compared to pre-test ($p < .05$). A significant difference was also observed at follow-up compared to pre-test ($p < .01$), but no significant difference was observed at follow-up compared to post-test ($p > .05$).

Table 4

Factors associated with physical bullying on the school premises among Thai school children

Characteristic	Cyberbullying AOR(95% Conf. Interval)	P-value
Gender		
Male	1.0	
Female	0.60 (0.45-0.80)	0.002
Feeling of loneliness		
Never	1.0	
Rarely	1.29 (0.99-1.68)	0.062
Sometimes	1.55 (1.14-2.09)	0.006
Most of the times	1.59 (1.16-2.17)	0.005
Always	3.05 (1.91-4.86)	<0.001
Inability to sleep in past 12 months		
Never	1.0	
Rarely	1.67 (1.32-2.12)	<0.001
Sometimes	1.81 (1.36-2.40)	<0.001
Most of the times	2.06 (1.34-3.16)	0.002
Always	2.77 (1.63-4.70)	<0.001
Number of close friends		
0	1.0	
1	0.96 (0.63-1.47)	0.853
2	0.75 (0.48-1.15)	0.176
3 or more	0.63 (0.45-0.89)	0.011
Age at first intercourse		
None	1.0	
11-14 years	0.67 (0.39-1.16)	0.143
15-18 years	0.37 (0.22-0.64)	0.001
Bullied but not on school property in past 12 months		
Yes	1.0	
No	0.09 (0.07-0.12)	<0.001

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Table 4 shows the factors that were associated with face-to-face bullying on school premises in Thailand. Female learners were less likely to be bullied on the school premises compared to their male counterparts (AOR: 0.60; 95% conf. interval: 0.45-0.80). Similar to cyber-bullying, the more the frequency of loneliness, the more likely the odds of bullying on the school premises. Also, the more the frequency of inability to sleep in the 12 months preceding the survey, the more the likelihood of bullying. Those who had more than three or more close friends were less likely to be bullied face-to face on the school premises (AOR: 0.63; 95% Conf. Interval: 0.45-0.89).

4. Discussion and Conclusion

This study aimed to investigate the factors associated with cyberbullying among the adolescents in Thailand, a Southeast Asian country. The use of multivariable logistic regression in addressing this objective has led to an understanding of the various factors significantly associated with cyberbullying among the Thai adolescent and most of these factors are health risk behaviours. They include feeling of loneliness, suicide, cigarette smoking, having ever had sexual intercourse, and bully on or outside of the school premises. This study also looked at factors associated with the traditional face-to-face bullying on school premises to see if it had the same factors as cyber-bullying. In this study, the factors associated with traditional cyberbullying included gender, feeling of loneliness, inability to sleep in the past 12 months, number of close friends, age of the learner at first sexual intercourse and being bullied outside of the school property in the past 12 months preceding the survey.

In the current study, feeling of loneliness always and most of the times was associated with cyberbullying, although, those who rarely felt lonely were also more likely to experience cyberbullying compared to those who never felt lonely in Thailand. This is similar to a study conducted by Varela et al, who showed that the frequency of cyberbullying increased the fear of loneliness as a reaction to it during Covid-19 days. They showed that the effect was higher for younger adults compared with adolescents (Varela et al., 2022). Students exposed to bullying in both the online and school contexts were lonelier than the unexposed. Even a low exposure to bullying more than doubled the likelihood of loneliness. These observations correspond with other studies (Lim et al., 2020; Madsen et al., 2024). It is assumed that young people turn to online communication as a means of overcoming isolation and individuals who feel lonely can easily vent negative emotions online without concern for implications due to the accessibility and anonymity of the internet (Fang et al., 2022).

Furthermore, victims of cyberbullying were more likely to smoke cigarettes compared to their non-smoking counterparts. According to the theory of reasoned action, a person's intention to carry out a series of behaviour is determined by a combination of personal attitudes towards a set of beliefs as well as the values added to those beliefs (Swartz et al., 2011). Thus, victims of cyberbullying would be more inclined to take up negative coping mechanisms such as smoking to numb the feelings of loneliness which exacerbates these symptoms in the long run as explained by the theory of planned behaviour. However, cigarette smoking was not associated with face-to face bullying among the Thai adolescents. This may suggest that cyber-bullying negatively modify the behaviours of adolescents more than face-to face bullying. Furthermore, if adolescents who are victims of cyberbullying, continue in an environment that stimulates the bullying the chances of these victims having suicidal ideation would also increase (Sun et al., 2021)

This study showed that victims of cyberbullying had more frequent suicide ideation. This is corroborated by many other studies which revealed that victims of cyberbullying had a significantly higher risk of suicidal ideations, plans, and attempts (Zaborskis et al., 2019). This is seen in findings from studies conducted in Hong Kong (Lim et al., 2019) and the US (Kann et al., 2018). For face-to-face bullying on the school property, it was not associated with suicide consideration. Cyberbullying has been shown to have longer lasting impact on its victims than face-to face bullying(Doane et al., 2016). According to UNICEF, when bullying happens online it can feel as if you're being attacked everywhere, even inside your own home. It can seem like there's no escape. The effects can last a long time and affect a person in many ways (UNICEF, 2024). Victims of cyberbullying can be reached anywhere, anytime, and the potential audience is huge (Peebles, 2014). However, face-to-face bullying in most cases is limited to the place where the bullying occurs.

Cyberbullying is more prevalent among males than females. Thai culture could also be a predictor of cyberbullying. Thai culture is a predominantly male driven, which explains why the prevalence of cyberbullying is more common among males compared to females. Furthermore, social harmony is very important in Thai culture where

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public displays of anger are highly frowned upon. Therefore, adolescents are more likely to use social media to express their aggression towards their peers as it is perceived as an easier alternative whilst upholding cultural traditions. Moreover, Thai culture is deeply rooted in Buddhism which emphasizes harmony and is integrated into daily life and has a large influence on the social mechanisms which drive behaviour (Samoh et al., 2019; Sokantat et al., 2021). However, after controlling for other factors, there was no statistically significant association between gender and cyberbullying. This is contrary to what was observed for face-to face bullying. There was a statistically significant association between gender and face-to face bullying on the school property even after adjusting for other variables. Female students were less likely to have been bullied on the school property compared to their male counterparts. This shows that cyberbullying does not exonerate any gender but face-to face bullying on the school property is likely to be among boys than girls. Studies showed that boys experienced bullying directly, they are commonly victims and perpetrators, while girls were more involved in indirect bullying, such as malicious gossip (Carrera Fernández et al., 2013; Hong & Espelage, 2012).

According to this study, there was an association between traditional face-to face bullying either, on the school premises or outside of the school premises and cyberbullying. Previous studies have shown that a lot of people involved in cyberbullying are also involved in traditional face-to-face bullying (Juvonen & Gross, 2008; Peebles, 2014). Juvonen and Gross also suggested that health issues associated with cyberbullying involvement were mediated through traditional bullying (Juvonen & Gross, 2008). Face-to-face bullying on school property is associated with inability to sleep in the past 12 months and having more than three close friends. This is supported by different studies which showed that bullying resulted in a higher risk of experiencing poor sleep quality and subjective sleep disturbances (Kubiszewski et al., 2014; Zhou et al., 2015). Also, a study by Kendrick, Jutengren & Stattin showed that the quality of support in friendships can protect against bullying victimization and perpetration (Kendrick et al., 2012). However, this study did not find any association between cyberbullying and inability to sleep in the past 12 months as a result of worry and having close friends.

Cyberbullying is also associated with having sexual intercourse among the Thai adolescents. According to Holt et al, sexual intercourse among the adolescents is a sexual risk-taking behaviour and can be regarded as one of the maladaptive coping behaviors (Holt et al., 2013). Sexual intercourse among adolescents is always associated with negative outcomes such as a higher prevalence of sexually transmitted infections (Smith et al., 2020).

Cyberbullying is not a well-researched topic in Thailand nor the rest of South-East Asia. Furthermore, the broader public health impact of cyberbullying is not well understood. The aim of this paper was to investigate the factors associated with cyberbullying in Thailand. However, due to a lack of literature surrounding the topic in Thailand there are many gaps that could be addressed which include investigating how socio-economic factors influence cyberbullying as well as how a lack of technological laws and regulations in Thailand influence the prevalence of cyberbullying within the country. According to the UNICEF, face-to-face bullying and cyberbullying are often correlated. This is supported by the findings of this study which showed that those who were not bullied on or off the school premises were less likely to be cyberbullied.

In conclusion, cyberbullying is a major public health issue and is repeated harm inflicted through the use of the internet. There are various micro, meso and macro level factors which can influence cyberbullying including delinquency, peer pressure and a lack of parental support which could exacerbate cyberbullying in Thailand. The prevalence of cyberbullying was higher among males than females which could be largely due to cultural norms in Thailand, because it is easier to perform acts of violence and aggression over the internet as it is socially unacceptable to have aggressive outbursts in public. Also, this study showed that the factors associated with cyberbullying are different from the ones that are associated with the traditional face-to-face bullying. Being able to identify the difference between the two types of bullying will help to address cyberbullying correctly in Thailand.

5. Limitations & Suggestions

This study had some limitations and the results should be interpreted with caution. The cross-sectional nature of the study did not allow for temporal direction between cyberbullying and the risk factors. The study was conducted among the school going Thai adolescents from 11 to 18 years, therefore the results cannot be generalized to the non-school going adolescents and anyone above or below this age-group. Another limitation is the use of self-reported tools which would have led to response bias.

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More studies need to be done using longitudinal research methods and objective methods of measurements, rather than using self-report only. A lot of studies including the current one only looked from the victims' side but not on the perpetrators' side, therefore, more studies are needed to look at the rationale behind the perpetrators' actions. The factors associated with inflicting pain on others especially among adolescents through cyberbullying in Thailand. This will help in the management of the different cyberbullying behaviours which may include cyberstalking, doxing, fraping etc.

One of the ways to manage cyberbullying is by encouraging adolescents to talk to trusted adults (UNICEF, 2024). Adults such as parents and teachers need to be trained on how to help e.g. encouraging students to learn about the privacy settings of the apps that they use (UNICEF, 2024). Finally, Thailand should have laws against cyberbullying in order to give justice to the victims and prevent future cyberbullying behaviours.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical approval was received from the IIEMSA ethics committee to conduct the study. Reference number: R.0002021 [REC].

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

CW helped with conceptualization of the study, helped to draft the manuscript, revised the manuscript; BGO conceived of the study, performed the statistical analysis, interpreted the data, and helped draft the manuscript; All authors read and approved the final manuscript.

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