

Keyboard Warrior, Online Predator or Cyber Bully? The Growing Menace of Child Exposure to Internet Harm based on Research Evidence

Sarina Yusuf^{1*}, Khairuddin Idris², Asnarulkhadi Abu Samah², Adamkolo Ibrahim³, Nor Sabila Ramli², Muhamad Shamsul Ibrahim⁴ and Nur Atikah A Rahman⁵

¹*Department of Communication and Media, Faculty of Languages and Communication, Universiti Pendidikan Sultan Idris, 35900 Tanjong Malim, Perak, Malaysia*

²*Cyber Generation Laboratory, Institute for Social Science Studies, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.*

³*Department of Mass Communication, University of Maiduguri, 1069 Maiduguri, Nigeria*

⁴*Kolej University Poly-Tech MARA (KUPTM), 56100 Kuala Lumpur, Malaysia*

⁵*School of Communication, Universiti Sains Malaysia, 11800 Minden, Penang, Malaysia*

ABSTRACT

The internet has come along with a myriad of positive and negative challenges. One of the positive developments is the increased access for all age categories, especially people of young ages; however, it is not without a side effect. A cyberbullying threat has become interesting areas of research over the years because of the importance of the concepts toward understanding children's online behaviours and making the internet safe again for the kids to surf. Thus, this article seeks to provide a further understanding of the phenomenon by reporting the findings of a study performed in Selangor, a state of Malaysia.

A questionnaire was administered to 375 respondents selected using stratified random sampling from a population of 6,671 primary and secondary school pupils aged 9 to 16 years. The key findings revealed that most children had been involved in the act of cyberbullying. Interestingly, most of them were aware of online threats but did not know that it was bad behaviour. However, most of them were rarely involved in a sex-related cyberbullying incident. A collective approach to guarantee the internet

ARTICLE INFO

Article history:

Received: 02 February 2019

Accepted: 10 December 2019

Published: 26 June 2020

E-mail addresses:

sarinayusuf@fbk.upsi.edu.my (Sarina Yusuf)

kidin@upm.edu.my (Khairuddin Idris)

asnarul@upm.edu.my (Asnarulkhadi Abu Samah)

adamkoloibrahim@yahoo.com (Adamkolo Ibrahim)

nsr.bila@gmail.com (Nor Sabila Ramli)

shamsul@kuptm.edu.my (Muhamad Shamsul Ibrahim)

atikahrahman@usm.edu.my (Nur Atikah A Rahman)

* Corresponding author

safety of children and balance their online prospects and risks is recommended to ensure children's online safety.

Keywords: Child online safety, cyberbullying, digital communication, internet, keyboard warrior, online predator

INTRODUCTION

The Malaysian Vision 2020 and the United Nation's 2030 Sustainable Development Goals (SDGs) foresee a planet in which every child grows up healthy and free from violence and exploitation and endeavour to offer children a promising milieu for the full attainment of their rights and capabilities (United Nations Development Program [UNDP], 2016; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2016). The current information age has come with a lot of 21st Century wonders of the world, especially the internet and computers. These technologies have not only remodelled and transformed the world like no other before but also created another world, a utopian world of fantasy and virtualism where distance does not count when it comes to time. This virtual world is populated and ruled by netizens who are referred to as 'generation y' or 'millennials' (Balakrishnan, 2017; Hinduja & Patchin, 2014).

Nonetheless, some groups of netizens opt to abuse the virtually unfathomable freedom and craftiness of the cyber world by masking up in its encrypted pixels and harming others. In fact, over just a single decade or so ago, the seemingly goldmine cyberspace has been transformed into a

battleground, wrestling ring or predatory arena by the 'faceless' 'keyboard warrior', who would rather detonate clusters of keyboard grenades (hurtful text messages) to their targets; or the predatory internet behaviour, whose online brutality could induce suicide ideation in their victims, something that even sticks, stones and steel may not be able to; or the haughty, narcissistic 'smartphone gladiator', whose holier-than-thou (notice-me-or-I-crucify-you) attitude incites them to invoke the gruesome power of thunder to hurt their victims online (Cassidy et al., 2009; Ghazali et al., 2017).

Families, neighbourhoods, communities and schools are usually, the milieus where children are normally raised are, but the stark reality is that the online environment where children from about three years old are interacting regularly and for longer durations (Croll, 2016; Yusuf et al., 2018b) can no longer be disregarded. With the increasing accessibility and affordability of the internet, especially mobile broadband in Malaysia and the South-East Asian region, the claim that more children are going online for longer durations is also turning out to be evident in the region (Balakrishnan, 2017; UNESCO, 2016).

With a population of 32.6 million (as of October 2019) (Department of Statistics Malaysia, 2019), 31.63 million (in 2018) and a 28.5 million population of internet users, Malaysia was ranked 11th in terms of internet users in the Asia-Pacific region in 2018 (Statista, 2019). Broadband internet penetration rose from 31.7% in 2009 to

72.2% as of the Second Quarter of 2015 (Alias, 2018). Malaysia Internet Users' Survey (Malaysian Communications and Multimedia Commission) 2017 report shows that in 2015 15.5% of people below the age of 20 years used the internet while the percentage reduced to a mere 13% in 2016. Specifically, in 2015, 13.9% of the country's 20.1 million internet users were aged 15 to 19 years while only 1.6% of them were aged 15 years or under ("Predators in cyberspace", 2016). Most people who use the internet in Malaysia are resident in urban areas (Malaysian Communications and Multimedia Commission [MCMC], 2017).

The Internet is delivering unique opportunities for children's communication, interaction, learning and social development. Unfortunately, the same technologies are exposing children to various online harm, which affect their safety and well-being (Balakrishnan, 2017, 2015; Soni & Singh, 2018). Despite there are diverse forms of risks that children encounter on the internet. Three categories of cyberbullying have been highlighted in the literature, namely content, use and interaction. First, content involves the types of material or substance that children come across online which often may be potentially dangerous, illegal and inappropriate such as platforms, portals and websites that encourage hate speech, pornography, gossiping, fake story/news, snooping or intrusion into others' privacy, self-harm and violence. Second, use refers to the actual consumption of the internet content that may expose the children to risks such as cyberbullying, sexting and privacy and security matters. Driven by Web 2.0, the

current generation of the internet facilitates the creation and sharing of content by users (user-generated content). This encourages children to create and share content with peers. Third, interaction or communication involves the contact and communication which take place between individual peers with others especially on chat rooms and social network sites may put children at risks such as online grooming and rendezvous with potential bullies during online or in real life. (Balakrishnan, 2017; Soni and Singh, 2018).

BACKGROUND

Cyberbullying: Definition and Types

The growing menace of cyberbullying has generated tremendous arguments from academia and law enforcement, raising concern over its discreet form which is distinct from bullying. Over the last decade, scholars have vigorously debated whether cyberbullying is a form of bullying or an entirely different form of violent behaviour (Campbell & Bauman, 2018). The scholarly dispute may have been informed by the findings of several studies conducted in various socio-cultural contexts, e.g.: most cyber victims (93%) are bullied both in real life and online (Hase et al., 2015); cyberbullying meets the criteria of bullying but is exhibited in different ways and has similar outcomes to traditional bullying (Thomas et al., 2016); and common predictors have been discovered for both forms of bullying, e.g., low self-esteem, strain, negative relationships with family and peers (Kim et al., 2018).

Research has revealed that both forms of bullying lead to undesirable consequences for children and teenagers and that both are linked with low self-control on the part of the cyberbullies (Kim et al., 2018). However, the findings of a research study performed by Festl et al. (2017) indicated that the proportion of bully-victims (those who are both perpetrators and victims) is much greater for cyberbullying than for traditional bullying.

Basically, cyberbullying and real-life bullying are similar, especially in terms of form and technique. However, cyberbullying and bullying have many differences, with the latter being more harmful (Kim et al., 2017). Firstly, in cyberbullying, victims may not know who the bully is, or why they are being targeted (especially, because of the involvement of a technology interface) (Festl et al., 2017). The technology provides the cyberbully with the virtual cloak to mask his or her identity behind a computer or phone interface (encryption) using pseudonymous screen names, anonymous e-mail addresses, avatars (instead of profile pictures) or fake profile pictures (Campbell & Bauman, 2018; Hinduja & Patchin, 2014).

Secondly, the upsetting, spiteful and hurtful actions of a cyberbully are viral; i.e., a lot of people (in the neighbourhood, at school, in the community, in the city, and even in the world) can be directly or indirectly involved in the victimization; or at least, they can learn about the incident with a few clicks on the keyboard or touchscreen impressions (Rodelli et al., 2018). Because

of the ubiquitous nature of technology and the social nature of bullying behaviour among children and teenagers, it can be confidently argued that the pool of potential victims, offenders and witnesses/bystanders is boundless (Hinduja & Patchin, 2014; Wright, 2018).

Thirdly, past studies have suggested that it is often easier to be cruel using technology (Bonanno & Hymel, 2013; Kim et al., 2017). This explains why cyberbullying acts can be done from a physically distant location, and the bully does not have to wait and see the immediate response by the target individual (Hinduja & Patchin, 2010, 2014). The worse part of it is that sometimes offenders (perpetrators of a cyberbullying act) ordinarily might not understand the severe harm they are causing because they are veiled from the victim's response (Bauman & Baldasare, 2015).

Fourthly, due to its (virtual, online) nature (Hango, 2016), cyberbullying is more difficult to monitor (Hinduja & Patchin, 2014). In fact, according to Hinduja and Patchin (2014), it is much easier, e.g., for parents and teachers to watch adolescents at school and home than online; many adults do not have the skills and time "to keep track of what teens are up to online". Consequently, it is more likely that a cyberbully victim's experiences could be missed, and a bully's actions could go unnoticed, and then left unrestrained. Unfortunately, in such circumstances even if bullies are identified, many adults may not be able to respond adequately (Rodelli et al., 2018).

LITERATURE REVIEW

The Concept of Cyberbullying in a Malaysian Context

Most cyberbullying cases go unreported and there is a dearth of research on the problem in most Asia-Pacific nations with most of the existing literature devoted to specific groups such as schoolchildren and the youth (Soni & Singh, 2018). Several surveys have reported the rising rate of cyberbullying in Malaysia. The findings of an empirical investigation on Malaysian children's internet use revealed that one in every five children that go online has become the target of cyberbullying at least once and that 30% of young girls have been sexually harassed in an online chatroom (Yusuf et al., 2018a, 2018b). An international survey involving 1,896 teenage Malaysians aged 12 to 18 years revealed that 40% of the participants encountered cyberbullying, nearly a half (47%) of them sought their parents' advice when they got stuck online while 40% of them were addicted to online peer pressurizing such as using hurtful messages to harass someone (Yusuf et al., 2018a).

Focus-group discussion (FGD) sessions were held in a qualitative study carried out by Ghazali et al. (2017) to explore Malaysian youth's perception of what constitute cyberbullying the findings revealed a seemingly new type of (at least based on the participants' perception in Malaysian context) cyberbullying commonly perpetrated by aggressive messaging by perpetrators known as keyboard warriors (KWs). A KW is a child (or young person) who is incapable of expressing their

disapproval and anger physically who would rather overcome this social weakness by tip-off their heaps of aggression on their antagonists on the internet. For example, responses from Ghazali et al.'s (2017) participants R2G4 and R4G2 "Cyberbully is just a keyboard warrior. They did not dare to talk if they were confronted but only have the guts to type" and "Most cyberbullies are keyboard warriors" respectively highlighted this. The study also found that fake identity, split personality and uploading embarrassing pictures online are some of the most common forms of cyberbullying behaviours among the youth. Additionally, the internet and social environment (peers) are the primary sources of information about cyberbullying; and that fun-seeking, revenge-taking and loneliness are some of the major causes of cyberbullying among the kids, which often result in stress, violent conflicts and even suicide in extreme cases.

Ang (2015) reviewed the features, prevention and intervention strategies for cyberbullying in Malaysia, and highlighted that internet use frequency significantly influenced cyberbullying in children. The review also highlighted the most important causes of cyberbullying which included pre-emptive aggression and poor parent-child relationship. Beliefs supporting aggression among children, empathy training, setting guidelines for children's internet use and developing profound and positive parent-child communication and trust have been identified as efficacious tactics to combat cyberbullying and ensure strong parent-child bonds (Ang, 2015).

A survey conducted by Che Noh and Ibrahim (2014) dwelled on the roles of family and schools in establishing a positive environment capable of preventing and to determine cyberbullying incidence among university-going youth was performed with some 134 students in Malaysia. The study discovered a moderate level of cyberbullying incidence among the students. The study also found that some of the respondents were involved in sharing pictures of others online without their permission, posting hurtful comments, uploading videos of others online without permission, gossiping, harassing others online as well as insulting and slandering others via social network sites (Che Noh & Ibrahim, 2014).

An exploratory study was conducted by Balakrishnan (2015) on cyberbullying in Malaysia with about 400 youth aged 17 to 30 years. The study found that the intensity of internet use could give rise to the occurrence of cyberbullying and that existing social network sites and the internet could prompt cyberbullying among the youth. These findings have confirmed past studies which claimed that cyber victims tended to become cyberbullies and *vice-versa* (e.g., Hinduja & Patchin, 2010, 2014), and are supported in recent studies (e.g., Alim, 2016; Kim et al., 2017; Simon, 2017).

Among the limited literature that provides information about cyberbullying in Malaysia are surveys conducted by CyberSecurityof Malaysia (CSM) in 2010 Microsoft Corporation's survey in 2012. CSM reported that about 12,000 child internet risk incidents were reported in that

year most of which involved aggressive online behaviour among school kids, while a year earlier, 5,181 incidents were reported (Cyber Security of Malaysia [CSM], 2013). Microsoft Corporation's survey ranked Malaysia 17th high in cyberbullying incidence in the world. The survey was carried out with a sample of 25 countries from around the globe. Cited in Eek (2009), a UNICEF report also showed that cyberbullying was posing grave harm to the future of Malaysian children. Despite the high possibility of cyberbullying occurrences in Malaysia, limited data exist.

The literature has demonstrated that many detrimental effects are linked with cyberbullying that often extends into the real world. Studies found that many victims reported feeling sad, depressed, angry and frustrated (see Hinduja & Patchin, 2014; Kim et al., 2017). Responding to a survey question in research conducted by Hinduja and Patchin, one teenager expresses his feelings, "It makes me hurt both physically and mentally. It scares me and takes away all my confidence. It makes me feel sick and worthless" (Hinduja & Patchin, 2014). Victims also reveal that they are often afraid or embarrassed to go to school (Hinduja & Patchin, 2010, 2014).

The Cyber Aggression Typology Model

Due to rapid developments in new technologies, difficulties are encountered in defining the specific risky behaviours that occur among children in cyberspace. Various classifications of cyberbullying have been suggested by scholars, especially

based on typology and medium. Schultze-Krumbholz and Scheithauer (2009) defined cyberbullying as a traditional bullying in a new milieu, which was technically advanced or relational cyberbullying; Smith et al. (2008) defined cyberbullying as an aggressive behaviour perpetrated via personal computer (PC) or smartphones; Spears et al. (2009) defined it as overt and covert risky cyber behaviours; Willard (2007) defined cyberbullying using eight distinct behaviours online, namely cyberstalking, denigration, exclusion, flaming, harassment, impersonation, outing and trickery.

Nocentini et al. (2010) summarized those four main types of cyberbullying into the Cyber Aggression Typology Model (CATM) (see Figure 1) with following four constructs, namely (i) written-verbal behaviours (e.g., phone calls, text messages, e-mails, instant messaging, chats, blogs, social networking communities, websites),

(ii) visual behaviours (e.g., posting, sending or sharing compromising pictures and videos through mobile phone or internet), (iii) online exclusion (e.g., purposefully excluding someone from an online group) and (iv) impersonation (e.g., stealing and revealing personal information, using another person's name and account). CATM was adopted in this study, and the measurement scale was designed based on its perspective.

MATERIAL AND METHODS

Participants

The participants were 378 primary and secondary school pupils aged between 9 and 16 years selected using a stratified random sampling technique. The sample of the participants was drawn from a population of 6,671 pupils selected from four primary and four secondary schools in the Malaysian state of Selangor. Only pupils who experienced cyberbullying in the previous 12 months were selected. Paired, coded survey forms were administered to the young participants to avoid non-response bias (see Singer, 2006). The respondents were divided into two age groups for data analysis convenience: the children group, consisting of 155 pupils aged 9 to 11 years and the teenage group, consisting of 232 respondents aged 13 to 16 years. However, 15-year-old pupils were exempted from the survey because they were sitting an examination at the time of data collection.

The respondents were collected into small groups during class hours and were administered the questionnaire, which they

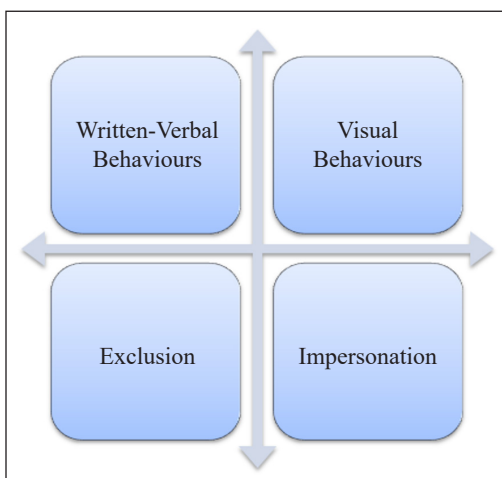


Figure 1. Cyber Aggression Typology Model (CATM) adopted from Nocentini et al. (2010)

completed under the supervision of their teachers. Trained enumerators guide the younger respondents aged 9 to 11 years with their questionnaire completion during class hour, before questionnaire completion time. Although the average time to complete the questionnaire was about 15 minutes, it took the younger respondents about 30 minutes or more to complete. All 400 questionnaires were retrieved: 110 (61 from the pupils and 49 from their parents) were retrieved on the same day they were administered while the remaining 290 were retrieved in later days. The average age of the children was 16.7 (SD = 0.42). However, nearly half of the schoolchildren were aged 13 to 14 years (46.1%), with more than half of them girls (64.8%).

Measures, Data Analysis and Instrument Validity and Reliability

This study focuses on types of cyberbullying commonly experienced among schoolchildren. The Cyberbullying-Victimization scale developed by Álvarez-García et al. (2016) was employed with a few modifications. The modifications were deemed necessary to ensure the validity of the scale for adoption in a Malaysian context. As part of the modifications, based on recommendations by the Malaysian Ministry of Education some words/phrases in the original scale that sound vulgar in Malaysian society were altered. For example, 'having sex' in the original scale was replaced with 'obscene acts' in the modified scale while the phrase

'pictures of naked persons' was replaced with 'inappropriate material'. The original scale consists of 19 items on risks and harm toward children's safety on the internet involving bullying, pornography, sexting and meeting strange people while online. Four more items from impersonation and online exclusion dimensions were added, thus, making the scale have 23 items.

After exploratory factor analysis, only 16 items loaded strongly, with scores above the recommended ≥ 0.50 (see Hair et al., 2006). Of the 400 questionnaires, only 375 cases were analyzed after data cleansing. The inventory of 16 items was measured with a five-point Likert type scale: (1) I experienced it rarely, (2) I experienced it seldom, (3) I'm not sure if I ever experienced it, (4) I experienced it sometimes and (5) I experienced it very often. We adopted a five-point Likert scale because it is one of the most commonly used in studies like this one (see Balakrishnan, 2015, 2017; Che Noh & Ibrahim, 2014; Hinduja & Patchin, 2010). Given that the Malay language is the primary national language with English as the second national language, the questionnaire was designed in English and translated into Malay by a professional translator. The Malay version was used in the survey while the English version was used for reference purposes.

Construct reliability test was then run. The Cronbach alpha coefficient value (α) for the construct for pre-test was $\alpha = .92$ ($n = 63$) while for actual data collection was $\alpha = .88$ ($n = 375$). This shows very

high alpha values for both, indicating that the scale was very reliable (see Salkind, 2008). Furthermore, a committee of experts reviewed the cyberbullying items and validated it. Approvals from the Malaysian ministry of education and the Selangor State department of education were also obtained. Similarly, consent was obtained from authors whose works were adopted in this study.

RESULTS

The demographic information of the participants shows female children outnumbered their male counterparts twice as many (64.8%, $n = 243$). Generally, the participants were aged between 9 and 16 years ($M=12.51$), with a little over two-thirds of them (60.1%) aged 13 to 14 years. Their average age was 12.51 ($+/- 0.46$), which indicates that their average age was

between 12.97 (approximately 13 years) and 12.05 (approximately 12 years), showing that most of them were young children with over one-third of them (37.6%) adolescents aged 14 to 16 years. Well over half of the children (57.6%) lived and attended school in urban areas (see Table 1).

The Level of Cyberbullying Incidence in Malaysia

With a mean value that is only 1.05 lower than 5.00 ($M = 3.05$, $SD = 0.35$), the audio construct recorded the highest mean value in the scale, indicating that the items had the greatest impact on most of the children's cyberbullying behaviours. Two items had the highest mean values in the construct namely, "I received insults via voice message (SMS) or instant messaging apps (e.g., WhatsApp, Messenger, WeChat)" and "False rumours about me were shared on a social network site". This shows that most of the children had been involved in cyberbullying incidents relating to insults and false rumours whether as victims or bullies. Coincidentally, the (audio) construct's alpha value ($\alpha = .92$) is the highest in the entire scale, which suggests a very high internal consistency and reliability score (see Table 2).

The construct with the second highest mean value is video ($M = 2.84$, $SD = 0.48$). Cyberbullying behaviours involving video content follows in the importance of cyberbullying behaviours relating to video content. Like in the audio construct, two items had the highest mean values in this

Table 1
The demographic data of the pupils (n=375)

Variables	F	%
Gender		
Male	132	35.2
Female	243	64.8
Age		
9	48	12.8
10	49	13.1
11	54	14.4
13	83	22.1
14	90	24.0
16	51	13.6
Living area		
Urban	216	57.6
Rural	159	42.4

construct as well: “Fake video of me (made up) was posted online to hurt me or laugh at me” and “I was forced to perform acts I didn’t want to do (regardless of whether I finally agreed to do or not) because I was threatened with the viral sharing of conversations or intimate images of me”. Both items addressed issues surrounding online humiliation and coercion, which have been identified as some of the common forms of cyberbullying behaviours among peers. With an alpha value $\alpha = .89$, the video construct recorded the third highest reliability index in the scale (see Table 2).

The impersonation construct had the third highest mean value ($M = 2.65$, $SD = 0.64$) in the entire scale. A couple of items with highest mean values include: “I was impersonated online, and comments posted in my name as if coming from me” and “Someone intruded my social network accounts intending to embarrass me in front of my friends”. Account/profile intrusion (especially hacking, or secretly getting access to the victim’s password and invading their profile) and the act of committing bad behaviour while posing as someone (impostor) is also serious cyberbullying behaviour. This construct had the second highest Cronbach alpha value ($\alpha = .90$) (see Table 2).

The fourth, as well as the last construct, is online exclusion. As its name suggests, this construct contains items that address issues surrounding deliberate snubbing, ignoring or expulsion of an individual peer from a group online to hurt their feelings. A couple of items with the most

prominent mean values are: “A group of peers agreed to ignore me on social media” and “I was excluded from or not accepted in the contact list of a chat room, social network site or instant messaging app (e.g., WhatsApp, Messenger) without having done anything wrong, just because it was me”. Coincidentally, the construct had the lowest alpha in the scale ($\alpha = .81$). All the alpha values in the scale are within the very high range thus, yielding an overall alpha value $\alpha = .88$, which is very high as well. This confirms all the items in the scale measured exactly what they were meant to (Hair et al., 2006) (see Table 2).

As the primary objective of this article, determining the level (mean percentage) of cyberbullying incidence among Malaysian schoolchildren is obtained as follows:

$$\frac{osm}{M}(100)$$

$$\frac{2.78}{5} \times 100 = 55.6 (+/-10.6)$$

(+/-10.6)

Where:

osm = overall scale’s mean value (see Table 2)

M = the highest mean value that can be scored based on the five-point Likert scale used

The +/-10.6 value is the scale’s overall standard deviation (0.53) expressed in percentage using the above formula. Therefore, the level (incidence) of cyberbullying among Malaysian schoolchildren was 55.6% (+/-10.6).

Table 2
The mean values and Cronbach alpha of the various constructs in the measurement scale (n=375)

Construct Item	Mean	SD	Cronbach Alpha
<i>1. Video</i>			.89
a) Genuine but compromised images or videos (of sexually-explicit or implicit) of me were shared online or via mobile phone without my permission.	1.89	0.64	
b) Fake photos of me (photoshopped) were posted online to hurt me or laugh at me.	3.33	0.40	
c) I was forced to perform a humiliating act, and this was recorded and shared online to make fun of me.	3.00	0.50	
d) I was forced to perform acts I didn't want to do (regardless of whether I finally agreed to do or not) because I was threatened with the viral sharing of conversations or intimate images of me.	3.13	0.38	
<i>Overall construct's mean</i>	<i>2.84</i>	<i>0.48</i>	
<i>2. Audio</i>			.92
a) I received calls insulting or mocking me.	3.01	0.34	
b) I received insults via text message (SMS) or instant messaging apps (e.g., WhatsApp, Messenger, WeChat)	3.53	0.54	
c) I received anonymous threatening or intimidating calls.	2.45	0.31	
d) Audios of false rumours about me were shared on a social network site.	3.20	0.22	
<i>Overall construct's mean</i>	<i>3.05</i>	<i>0.35</i>	
<i>3. Impersonation</i>			.90
a) I was impersonated online and comments posted in my name as if coming from me.	3.02	0.42	
b) Someone intruded my social network accounts with the intention to embarrass me in front of my friends.	3.00	0.60	
c) I was impersonated on social media and a false user (photo, personal data, etc.) created through which I was insulted or ridiculed.	1.58	0.89	
d) Someone close to me used my social media accounts without my knowledge with the intention to ridicule me.	2.99	0.65	
<i>Overall construct's mean</i>	<i>2.65</i>	<i>0.64</i>	
<i>4. Online Exclusion</i>			.81
a) I was excluded from or not accepted in the contact list of a chat room, social network site or instant messaging app (e.g., WhatsApp, Messenger) without having done anything wrong, just because it was me.	2.79	0.56	
b) A group of peers agreed to ignore me on social media.	2.99	0.77	
c) False complaints were made about me in forums, social network sites or online games, which had me expelled from the group.	1.76	0.55	
d) I was excluded and belittled often by a group of peers on social network sites.	2.78	0.67	
<i>Overall construct's mean</i>	<i>2.58</i>	<i>0.64</i>	
<i>Overall scale's mean</i>	<i>2.78</i>	<i>0.53</i>	
<i>Overall cronbach alpha of the scale</i>			.88

Note: M: mean, S.D: standard deviation

DISCUSSION

A study was conducted to determine the level of cyberbullying incidence among Malaysian schoolchildren. The results show that most of the children were female, aged between 12 and 13 years and hailed and studied in urban areas. With female respondents having a higher percentage in the sample, chances are that a great deal of the cyberbullying incidents reported in this article involved many of them. This is if we go by the literature which claims that girls are susceptible to involve in danger and risks regardless of the medium (both online and in real life) (Alim, 2016). Typically, boys are more aggressive and have a better capability of confronting bullies and/or bullying others. Boys tend to exhibit overt, overpowering behaviours whereas girls tend to back down often. In effect, keyboard warriors are more likely to be girls and probably shy boys.

With the rapidly evolving innovations in technologies, a phenomenon that 'abruptly' and 'instinctively' empowers more and more children and youth to access and use the internet and its related technologies such as social networking sites and internet gaming for various purposes such as learning, socialization, entertainment, interactions, shopping and even reading news, many innocent and vulnerable children are increasingly getting exposed to cyber victimization and other online risks (Balakrishnan, 2017; Ghazali et al., 2017). For example, recently (in July 2018), a 12-year-old Saudi Arabian boy was reported to have committed suicide

over an online game 'Blue Whale'. This is a big tragedy since young children who may be not old enough to own a mobile phone are clandestinely accessing the net through other means unknown to parents and exposing themselves to great dangers that could even lead to their death. It may not be surprising that most cyberbullying incidents occur among urban children and youth (Baldry et al., 2018). This suggests that the environment (geographical location) could be a correlate of cyberbullying. Because the present research did not focus on this issue and because the data that are available in the present research on this issue are not sufficient to warrant determining the correlation between environmental or geographical factors and cyberbullying, the researchers decided to leave this problem for future research to investigate.

To determine the most common forms of cyberbullying behaviours among the children and determine their impacts in the likelihood of them getting involved in cyberbullying is the secondary objective of this article. Four key typologies of cyberbullying have been identified, namely written/verbal behaviours, visual behaviours, impersonation and online exclusion as enshrined in CATM. Under each typology, several types of cyberbullying behaviours were examined as items in the various dimensions (constructs).

Firstly, in the visual (video) context, sharing online of fake pictorial content without owners' consent, coercion of someone to perform shameful acts, recorded and shared viral online as well as sharing

online of pictorial/video content of someone nude or their private parts are some of the most common types of online risks involving young schoolchildren. This mean and hurtful behaviour could impact negatively on not only the pupils' well-being, safety and academic performance (learning) but also on their parents' well-being (Hinduja & Patchin, 2014). Healthy, safe and well-behaved children signify a society's prosperous future (Balakrishnan, 2015, 2017; Ghazali et al., 2017; Hinduja & Patchin, 2014). Parents, authorities and teachers should collaboratively canvass for the inclusion of children's concerns in the core of technology designing and manufacturing.

Secondly, most of the common forms of cyberbullying behaviours involving most children concerning written/typed/audio category include insults through phone calls, insults via voice message, via mobile phone or instant messaging apps (e.g., WhatsApp, Messenger, WeChat), anonymous threatening or intimidating phone calls, hidden-contact phone calls and sharing online audio clips of false information about others. Most of these mean behaviours create profound discomfort in the victims and ultimately tell on their psychosocial well-being. Parents and educators should ensure they monitor children's technology access and user behaviour every so often. Technology developers should integrate parental control and child safety features on virtually all types of technologies that can be accessed and used by children and other young persons. This will ensure

adherence to the United Nations principles of the Convention on the Rights of Children, which is one of the best global advocacies for child protection, well-being and safety (Hinduja & Patchin, 2014).

Thirdly, another key cyberbullying category that has been identified in this article is impersonation. As the name suggests, this online risky behaviour involves deliberately assuming appearances like those of the real owners of an online profile or page and using the same to post content in the name of the real owners capable of tarnishing their image and embarrassing them. Some of the typical types of cyberbullying behaviour involving this context include 'cross-appearing' as someone online and posting comments as if they were the ones doing it, intrusion/invasion of others' social networking sites' accounts to embarrass them among peers and friends, using false user (video, personal data, etc.) created and shared online to insult or ridicule others and the used of someone's social network accounts without their knowledge or permission to ridicule them.

The encryption characteristic of the internet offers individual users a great deal of control over their privacy and personalization facilitated by features such as walls and encryption may have been developed with good intentions, yet same technology features provide malicious cyber citizens like online predators, smartphone wrestlers, keyboard warriors and internet gladiators with a great deal of 'underpinning' to hide their identity and perpetrate whatever online risky behaviour they may wish without being detected. Much as privacy

and personalization are some of the most unique and appealing features of the cyber world, user safety and well-being, especially children should be prioritized (Ghazali et al., 2017; Soni & Singh, 2018). Thanks to Facebook and Twitter for empowering users to be able to control a great deal of their content and privacy. However, more need to be done and authorities should make the activation of such features mandatory in systems installed in premises frequented by children and youth.

Fourthly and finally, online exclusion is the fourth as well as the last context. As the name suggests, this online risky behaviour involves deliberate expulsion or shutting out of a member of a peer group online from the group to embarrass and humiliate them. Overpowering cyberbullies may attempt to exert undue influence in a certain online 'territory', or group by embracing their loyalists and shutting out, expelling or shunning others who may be competing with them (rivals) to control the group, or their foes or antagonists (Alim, 2016; Baldry et al., 2018; Hinduja & Patchin, 2014).

As to bully is childish, early adolescence comes with a lot of physical and psychological changes in the human body. Among such changes is consciousness for self-realization and self-identification. These affect children's behaviour tremendously, e.g., the urge to bully others, the hunger for power, where, when, how and on whom to expend the power. The 'why' to expend the power on a particular subject (child, e.g.) does not much count because, typically, children lack the concept of right and wrong

reasoning to a great degree (Baldry et al., 2018; Hinduja & Patchin, 2014). Hence, a bully-hungry or power-monger child may exhibit some aggressive behaviour on others simply to be praised and/or feared by peers.

In some circumstances, a powerful and bully-hungry child may mobilize peers against a particular friend who may be their rival or foe to be shunned, ignored or expelled from an online group or chatroom (Hango, 2016), for example. In addition to always appealing to parents, teachers, law enforcement and technology developers to extend a 'kid's glove-covered' helping hand toward ensuring children's cyber safety, alternatively parents and teachers should be admonished to adopt 'carrot and stick' approach when necessary and punish erring children responsibly as a deterrent. Unless erring kids are punished accordingly, bullies and cyberbullies may assume what they do as normal rather than a sanctionable act (Hango, 2016; Hinduja & Patchin, 2014). Future research should focus on exploring problems associated with child digital literacy.

CONCLUSION

Indicating an overall scale mean value of 2.78 (SD = 0.53) as shown in Table 2, this study found that the average of the level of cyberbullying incidence among Malaysian children is moderate (55.6%). This implies that the incidence of cyberbullying among schoolchildren in Malaysia is neither high nor low; is in the middle. Given that a five-point Likert scale was used to gauge the respondents' responses, a mean

score of 3 would have been the absolute moderate (with mean scores of 1 and 2 as well as 4 and 5 at the top and bottom extremes). Therefore, since the overall mean value of the scale was 2.78 (plus or minus 0.53), if this figure is rounded to the first decimal place, $2.78 = 2.8$; if 0.53 points are added to 2.8 it is approximately 2.9, which would be nearly 3.0 mean score (absolute moderate). But if 0.53 is subtracted from 2.8 it is approximately 2.7, which would still be nearly 3.0 mean score (moderate). However, given that it is approaching a 60%, the incidence level is pointing to a higher level; if the problem is left to prevail uncontained, probably under the pretext that the actual level could be lower because some past studies suggested so, it might reach an alarming level. For example, a few earlier studies suggested that cyberbullying incidence in Malaysia was low (e.g., Yusuf et al., 2018a); was moderate (e.g., Yusuf et al., 2018b); its prevalence was more prominently among young children rather than youth (Balakrishnan, 2015); and cyberbullying is not a novel phenomenon in Malaysia (Ghazali et al., 2017). Despite the conclusions of these studies, this article confirms that cyberbullying incidence in the country is beyond low or ordinary moderate; it is rising towards a 'high' rate. Only future research can establish how faster it is approaching the high rate.

Furthermore, statistics provided by in a past survey carried out by Cyber Security of Malaysia (2011) reported that no fewer than 354 cases of cyber risks were reported, 30% of girls were involved in cyberbullying and

that one in every three Malaysian children was involved in a cyberbullying incident. A year later, a Digi Cyber Safe survey found that 80% of schoolchildren aged 9 to 17 in the country were involved in cyber risky behaviours.

All these statistics and findings demonstrate that child online risky behaviours are alarmingly occurring among children and youth in the country, unequivocally suggesting a high incidence level that supports this article's finding. The most common forms of cyber risks prevalent in the Malaysian cyberspace posing threats to children are mainly gossips, exclusion, impersonation, posting inappropriate content, insults, intimidating voice messages, nasty calls and keyboard intimidation. Sex-related cyberbullying is low. Therefore, this article concludes that many children have been involved in cyberbullying incidents whether as bullies, victims or both and that most of the perpetrators and victims were aware of what cyberbullying is. However, digital literacy courses should be designed and incorporated into school curriculums.

The intimidations and dangers of the cyber world as discussed earlier emphasize that the roles and responsibilities of parents and other adults in educating their teenage children while online is enormously vital. With a suitable approach, internet risks among teenage children such as cyberbullying can be decreased. Without control and supervision from their parents and concerned adults in the society teenage children may confront and mismanage the

bullying experience, and it is feared that that may cause other undesirable consequences including engaging in sexuality and porn behaviour. Apart from parents, important others that play a crucial role in the safety of children are teachers and schools. To curb the menace of cyberbullying and related children's online risks, safety awareness, especially children's cyber risks literacy should be incorporated into Malaysian schools' curricula.

Limitations and Future Research Directions

This study is only limited to a descriptive analysis of a quantitative approach. Although both schoolboys and girls have been surveyed, this study did not focus on determining the differences between the genders in cyberbullying/cybervictimisation incidence. This article, therefore, recommends that future research should focus on determining the factors influencing the involvement of the schoolchildren in cyberbullying behaviours. Thus, future research should find out the difference in the degree of the influence of cyberbullying behaviours between the schoolboys and girls. Also, there is a need to examine what factors can predict cyberbullying among the kids, e.g., is it parenting style, is it peer influence, is it obsession/addiction with the internet, and so on. This can help toward offering clues capable of mitigating the incidence of the risky internet-child behaviour.

Given that the present study provided only descriptive information about the

participants' demographics, future research should explore the relationships between demographic characteristics (e.g., gender and age, and even parental attachments) and cyberbullying. Furthermore, for a more comprehensive understanding of cyberbullying phenomenon, future research should investigate the effect of cyberbullying on other parties involved in the behaviour namely, the bully, the bully-victim and the bystander (audience) as suggested by Hinduja and Patchin (2014).

ACKNOWLEDGEMENT

Authors of this article would like to extend their utmost appreciation to the Research Management Center of UPM for funding the research project that has led to the production of this article. The authors are grateful of the anonymous reviewers and editors for their guiding comments.

REFERENCES

- Alias, A. (2018, June 19). Malaysia's Internet penetration is now 85.7 percent. *New Strait Times*. Retrieved on March 7, 2019, from <https://www.nst.com.my/business/2018/03/346978/malaysias-internet-penetration-now-857-cent>
- Alim, S. (2016). Cyberbullying in the world of teenagers and social media: A literature review. *International Journal of Cyber Behavior, Psychology and Learning*, 6(2), 68-95. <https://doi.org/10.4018/IJCBPL.2016040105>
- Álvarez-García, D., Barreiro, A., Núñez, J. C., & Dobarro, A. (2016). Validity and reliability of the cyber-aggression questionnaire for adolescents (CYBA). *The European Journal of Psychology Applied to Legal Context*, 8(2), 69-77. doi: 10.1016/j.ejpal.2016.02.003

- Ang, R. (2015). Adolescent cyberbullying: A review of characteristics, prevention and intervention strategies. *Aggression and Violent Behavior, 25*(A), 35-42.
- Balakrishnan, V. (2015). Cyberbullying among young adults in Malaysia: The roles of gender, age and internet frequency. *Computers in Human Behavior, 46*, 149-157.
- Balakrishnan, V. (2017). Unravelling the underlying factors sculpting cyberbullying behaviours among Malaysian young adults. *Computers in Human Behavior, 75*, 194-205.
- Baldry, A. C., Farrington, D. P., Sorrentino, A., & Blaya, C. (2018). Cyberbullying and cybervictimization. In A. C. Baldry, C. Blaya & D. P. Farrington (Eds.), *International Perspectives on Cyberbullying: Prevalence, risk factors and interventions* (pp. 323). New York, USA: Palgrave Macmillan, Cham.
- Bauman, S., & Baldasare, A. (2015). Cyber aggression among college students: Demographic differences, predictors of distress and the role of the university. *Journal of College Student Development, 56*, 317-330. doi: 10.1353/csd.2015.0039
- Bonanno, R. A., & Hymel, S. (2013). Cyberbullying and internalizing difficulties: Above and beyond the impact of traditional forms of bullying. *Journal of Youth and Adolescence, 42*, 685-697. doi: 10.1007/s10964-013-9937-1
- Campbell, M., & Bauman, S. (2018). *Cyberbullying: Definition, consequences, prevalence*. Brisbane, Australia: Academic Press.
- Cassidy, W., Jackson, M., & Brown, K. N. (2009). Sticks and stones can break my bones, but how can pixels hurt me? Students' experiences with cyber-bullying. *School Psychology International, 30*(4), 383-402. <https://doi.org/10.1177/0143034309106948>
- Che Noh, C. H., & Ibrahim, M. Y. (2014). Research on cyberbullying among UMT students. *Procedia - Social and Behavioral Sciences, 134*, 323-329.
- Croll, J. (2016). *Let's play it safe: Children and youths in the digital world*. Retrieved July 11, 2018, from <https://www.ictcoalition.eu/medias/uploads/source/available%20here.pdf>
- Cyber Security of Malaysia. (2011). Children and teenagers exposed to negative cyber culture. *Bernama News*. Retrieved January 28, 2014, from http://www.cybersecurity.my/en/knowledge_bank/news/2011/main/detail/2087/index.html
- Cyber Security of Malaysia (2013). *A national survey report 2013: Safety net: Growing awareness among Malaysian school children on staying safe online*. Cyber Security of Malaysia. Retrieved December 4, 2014, from https://digi.cybersafe.my/files/article/DiGi_Survey_Booklet_COMPLETE.pdf
- Department of Statistics Malaysia. (2019). *Current Population Estimates, Malaysia, 2018-2019*. Retrieved July 5, 2019, from https://www.dosm.gov.my/v1/index.php?r=column/cthem-ByCat&cat=155&bu1_id=aWJZRkJ4UEd-KcUZpT2tVT090Snpydz09&menu_id=L0phe-U43NWJwRWV5Zk1WdzQ4TlhUU09
- Eek, T. S. (2009). *A big sister helps students cope with bullying*. UNICEF Malaysia. Retrieved October 4, 2009, from https://www.unicef.org/protection/malaysia_51549.html
- Festl, R., Vogelgesang, J., Scharnow, M., & Quandt, T. (2017). Longitudinal patterns of involvement in cyberbullying: Results from a latent transition analysis. *Computers in Human Behaviour, 66*, 7-15. <https://doi.org/10.1016/j.chb.2016.09.027>
- Ghazali, A. H. A., Abdullah, H., Omar, S. Z., Ahmad, A., Abu Samah, A., Ramli, S. A., & Shaffril, H. A. M. (2017). Malaysian youth perception on

- cyberbullying: The qualitative perspective. *International Journal of Academic Research in Business and Social Sciences*, 7(4), 87-98. doi: 10.6007/IJARBS/v7-i4/2782
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis*. Upper Saddle River, USA: Pearson Prentice Hall.
- Hango, D. (2016). *Cyberbullying and cyberstalking among internet users aged 15 to 29 in Canada*. Ottawa, Canada: Statistics Canada.
- Hase, C. N., Goldberg, S. B., Smith, D., Stuck, A., & Campain, J. (2015). Impacts of traditional bullying and cyberbullying on the mental health of middle school and high school students. *Psychology in the Schools*, 52, 607-617. <https://doi.org/10.1002/pits.21841>
- Hinduja, S., & Patchin, J. W. (2010). Bullying, cyberbullying and suicide. *Archives of Suicide Research*, 14(3), 206-221.
- Hinduja, S., & Patchin, J. W. (2014). *Cyberbullying: Identification, prevention and response*. USA: Cyberbullying Research Center. Retrieved July 10, 2015, from <https://cyberbullying.org/Cyberbullying-Identification-Prevention-Response.pdf>
- Kim, S., Boyle, M. H., & Georgiades, K. (2017). Cyberbullying victimization and its association with health across the life course: A Canadian population study. *Canadian Journal of Public Health*, 108(5-6), e468-e474. <https://doi.org/10.17269/CJPH.108.6175>
- Kim, S., Colewell, S. R., Kata, A., Boyle, M. H., & Georgiades, K. (2018). Cyberbullying victimization and adolescent mental health: Evidence of differential effects by sex and mental health problem type. *Journal of Youth Adolescence*, 47(3), 661-672. <https://doi.org/10.1007/s10964-017-0678-4>
- Malaysian Communications and Multimedia Commission (2017). *Internet users survey 2017: Statistical brief number twenty-one*. Selangor, Malaysia: Author. Retrieved July 7, 2018, from <https://www.mcmc.gov.my/mcmc-internet-users-survey.2017.pdf>
- Nocentini, A., Calmaestra, J., Schultze-Krumbholz, A., Scheihauer, H., Ortega, R., & Menesini, E. (2010). Cyberbullying: Labels, behaviours and definition in three European countries. *Australian Journal of Guidance and Counselling*, 20(2), 129-142.
- Predators in cyberspace. (2016, July 24). *New Strait Times (NST)*. Retrieved January 4, 2018, from <https://www.nst.com.my/news/2016/07/160330/predators-cyberspace>
- Rodelli, M., De Bourdeaudhuij, I., Dumon, E., Portzky, G., & DeSmet, A. (2018). Which healthy lifestyle factors are associated with a lower risk of suicidal ideation among adolescents faced with cyberbullying? *Preventive Medicine*, 113, 32-40. <https://doi.org/10.1016/j.ypmed.2018.05.002>
- Salkind, N. J. (2008). *Statistics for people who (think they) hate statistics*. Los Angeles, USA: Sage.
- Schultze-Krumbholz, A., & Scheithauer, H. (2009). Social-behavioral correlates of cyberbullying in a German student sample. *Journal of Psychology*, 217(4), 224-226. <https://doi.org/10.1027/0044-3409.217.4.224>
- Simon, S. (2017). Cyber victimization: School experience of Malaysian cyberbullied teenagers. *International Journal of Humanities and Social Sciences*, 11(3), 713-720.
- Singer, E. (2006). Introduction: Nonresponse bias in household surveys. *The Public Opinion Quarterly*, 70(5), 637-645. Retrieved February 14, 2020, from www.jstor.org/stable/4124219

- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., & Russell, S. (2008). Cyberbullying: Its nature and impact in secondary school students. *Journal of Child Psychology and Psychiatry*, 49, 376-385.
- Soni, D., & Singh, V. (2018). See no evil, hear no evil: Audio-visual-textual cyberbullying detection. *Proceedings of the ACM on Human-Computer Interaction*, 2(CSCW), 26. <https://doi.org/10.1145/3274433>
- Spears, B., Slee, P., Owens, L., & Johnson, B. (2009). Behind the scenes and screens: Insights into the human dimension of covert and cyberbullying. *Zeitschrift für Psychologie/ Journal of Psychology*, 217(4), 189-196. <https://doi.org/10.1027/0044-3409.217.4.189>
- Statista. (2019). *Number of internet users in selected countries in the Asia-Pacific region as of January 2019, by country*. Retrieved January 3, 2019, from <https://www.statista.com/statistics/265153/number-of-internet-users-in-the-asia-pacific-region/>
- Thomas, H. J., Chan, G., Scott, J., Connor, J., Kelly, A., & Williams, J. (2016). Association of different forms of bullying victimization with adolescents' psychological distress and reduced emotional wellbeing. *Australian and New Zealand Journal of Psychiatry*, 50(4), 371-379. <https://doi.org/10.1177/0004867415600076>
- United Nations Development Program. (2016). *Human development report 2016: Human development for everyone*. New York, USA: UNDP. Available from <http://hdr.undp.org/en/content/human-development-report-2016>
- United Nations Educational, Scientific and Cultural Organization. (2016). *A policy review: Building digital citizenship in Asia-Pacific through safe, effective and responsible use of ICT*. Bangkok, Thailand: UNESCO Bangkok.
- Willard, N. (2007). *Cyberbullying and cyberthreats. Responding to the challenge of online social aggression, threats, and distress*. Illinois, USA: Research Press.
- Wright, M. (2018). Cyberbullying victimization through social networking sites and adjustment difficulties: The role of parental mediation. *Journal of Association for Information Systems*, 19(2), 113-123. <https://doi.org/10.17705/1jais.00486>
- Yusuf, S., Hassan, M. S., Abu Samah, B., Ibrahim, M. S., Ramli, N. S., Rahman, N. A. A., & Osman, M. N. (2018a). Parental attachment and cyberbullying experiences among Malaysian children. *Pertanika Journal of Scholarly Research Reviews*, 4(1), 67-80.
- Yusuf, S., Hassan, M. S. H., & Ibrahim, A. M. (2018b). Cyberbullying among Malaysian children based on research evidence. In M. Khosrow-Pour (Ed.), *Encyclopedia of information science and technology* (4th ed.) (pp. 1704-1722). Hershey, USA: IGI Global.

