Cyber Aggression-Victimization Among Malaysians Youth

Sarina Yusuf[1*], Fatima Mohamed Al-Majdhoub[2], Nur Nadia Mubin[3], Rizky Hafiz Chaniago[4], Fazal Rahim Khan[5]

[1′2′3′4] Department of Communication and Media, Faculty of Languages and Communication, Universiti Pendidikan Sultan Idris (UPSI), Tanjong Malim, Perak, Malaysia
sarinayusuf@fbk.upsi.edu.my
fatima@fbk.upsi.edu.my
nadia@fbk.upsi.edu.my
rizky@fbk.upsi.edu.my
[5] Department of Arts and Media, Faculty of Arts and Social Sciences, Foundation, University, Islamabad, Pakistan
fazal_qasuria@yahoo.com
*Corresponding Author

https://doi.org/10.24191/ajue.v17i1.12616

Received: 25 November 2020
Accepted: 25 January 2021
Date Published Online:8 March 2021
Published: 8 March 2021

Abstract: Cyber aggression has become a growing problem in today's society. It offers convenient opportunities to humiliate, bully, or harass others online. Global studies on cyber aggression found that youths who were aggressed online reported feeling depressed, anxious and afraid. They showed poor academic performance, and experiencd eating disorders, alcohol, drugs and substance abuse. Therefore the study aimed to investigate the interrelationships between predictive factors namely peer attachment, parental attachment, exposure to the Internet and cyber aggression-victimization among youths. The renowned general aggression model (GAM) was applied to understand the phenomenon. A sample of 430 urban youths aged between 13 and 18 years living within Klang Valley area were randomly selected to participate in the study. Data were gathered through self-report questionnaires and later analyzed using SPSS and AMOS. The results revealed several noteworthy findings; most of respondents made use of the Internet for approximately 7 to 21 hours per day during weekends mainly for surfing social media, followed by entertainment and online games. A relatively significant number of youths were engaged with cyber victimization through written-verbal and online exclusion. Finally, the structural path analysis indicates that Internet exposure is the strongest predictor associated with cyber aggression-victimization. Based on these findings, the implications and recommendations for future investigations with reference to the current theoretical framework and empirical findings on cyber aggression-victimization are thoroughly discussed.

Keywords: Cyber aggression, Cyberbullying, Internet exposure, Klang Valley, Parental and peer attachment, Victimization, Youths.

1. Introduction

In 2012, Malaysia ranked 17th out of 25 countries that were involved in a survey on the occurrences of cyberbullying (Microsoft Corporation, 2012). The research found that 33% of children under the age of 8 to 17 were engaged with some forms of aggression online such as defamation, online harassment and impersonation. Further study uncovered that cyber aggression occurrences among youngsters in

Malaysia were on the rise, with 13 to 15-year-olds being the most well-known targets or victims (Teimouri et al., 2014). Cyber Security Malaysia reported about 300 cases of cyber harassment in 2012, 512 in 2013, 550 in 2014, 442 in 2015 and 529 in 2016 (The Star Online, 2017). MCMC (2016) confirmed that the number was increasing yearly; over the last five years there has been 1,524 recorded incidents of cyberbullying. Althought this number seems insignificant compared to more than five million school-going students across the country, the number of cases that were reported to the agency was only the tip of the iceberg.

As an emerging global public health issue, much research has been conducted globally across cultures and countries to understand this phenomenon, taking into account the perspectives of victims (Tsitsika et al., 2009). Research on cyber aggression-victimization have been reported in Europe, the United States of America and Asian countries. However, research in Malaysia has focused mainly on cyberbullying (Abu Bakar, 2013; Balakrishnan, 2015; Faryadi, 2011; Ghazali et al., 2017; Teimouri et al., 2014; Yusuf et al., 2018). As far as the researchers are concerned, there is limited, or no study conducted on cyber aggression or cyber victimization in Malaysia. The few studies on cyberbullying carried out in Malaysia suffered from small sample size and were descriptive (Faryadi, 2011; Balakrishnan, 2015). Therefore, it is essential to conduct this study to contribute to new knowledge on youth and new media effects from the Malaysian perspective.

Investigations of cyber aggression phenomenon began to emerge in scientific literature because of their implications on youth development. This behaviour has adverse consequences on victims, e.g. low self-confidence, social isolation, self-harm, low academic scores, depressive symptoms and social anxiety (Hinduja & Patchin, 2008; Soh, 2010; Tokunaga, 2010). Thus, it is crucial for the current study to probe into the issue from the perspective of victims, as according to Corcoran et al. (2015), cyber aggression has adverse impacts on victims compared to their perpetrators. Aggressive behaviours could inherently lead to other harmful consequences. In some extreme cases, those consequences can lead to severe mental illnesses (Alvarez-García et al., 2015; Bonanno & Hymel, 2013) or suicide (Van Geel, Vedder, & Tanilon, 2014; Hinduja & Patchin, 2010; Kowalski et al., 2014).

The term *cyberbullying* was coined more than a decade ago. However, there are 636 studies with numerous varying definitions (Berne et al., 2013), i.e. *electronic aggression* (Hertz & David-Ferdon, 2011), *Internet aggression* (Werner et al. 2010), *cyber aggression* (Schoffstall and Cohen 2011), *online aggression* (Law et al., 2012) and *online harassment* (Ybarra & Mitchell, 2004). Not surprisingly, there are nearly 650 cyberbullying measurement tools (Berne et al., 2013; Tokunaga, 2010; Vivolo-Kantor et al., 2014). As cyberbullying is a relatively recent phenomenon, Tokunaga (2010) states that researchers have not focused on bullying *per se* but more on aggression against victims in ICT. Throughout this paper, cyber aggression and victimization will be referred to as suffering peer aggression by computer-mediated communication (e.g. Internet and smartphones) which mainly consists of written-verbal, visual, exclusion, and impersonation (Nocentini et al., 2010). The study also tests the most recent Cyber Aggression Victimization (CYVIC) measures by Alvarez-García et al (2016).

Since there is no fixed definition and measurement tools, it is a challenge to understand the most suitable or appropriate predictive factors that may influence the incidences of cyber aggression-victimization. However, systematic investigations such meta-analytic reviews have revealed abundance of factors that could possibly influence such behaviours. The first of such review was done by Hawker and Boulton (2000) a correlational research on peer victimization research conducted between 1978-1997. The researchers indicated that victimization is linked significantly to loneliness, depression, anxiety and diminished self-esteem including self-concept. After more than two decades, meta-analysis studies using general aggression model (GAM) found that more than twenty predictive factors have a significant link between cyber victimization and various adverse effects (Kowalski et al., 2014).

Among the many predictive factors, there are four primary variables that have consistently emerged in literature and have been identified as having strong associations with cyber aggression among victims namely, parental attachment (Hoeve et al., 2012), peer attachment (Ji et al., 2014; Wright et al., 2015) personality traits (Ang, Tan & Mansor, 2011; Wiedeman et al., 2015; Pimentel, 2016) and Internet exposure (Escobar-Chavez & Anderson, 2008; Wiedeman, et al., 2015; denHamer & Konijin, 2015). The results obtained from previous studies on those variables were inconclusive and contradictory, e.g. early studies generally found a positive relationship between peer attachment, personality trait, exposure to media content and cyber victimization (Hinduja & Patchin, 2008). In

contrast, there were also studies which reported negative relationships between those variables (Tomé & Matos, 2012) or no relationship between the variables (Thomaes et al., 2008). The relationship between the four predictive factors namely personality traits, parental attachment, peer attachment and Internet exposure has yet to be elucidated; thus, it is not apparent which factor is a stronger predictor to the cyber aggression-victimization (Fillamenta, 2018). Consequently, many researchers have concluded that more research is needed in this area to understand further the occurrences of such phenomenon (Berne et al., 2013; Tokunaga, 2010; Hinduja & Patchin, 2008).

All the interrelationships between variables mentioned above are explained clearly in the cyber victimization model that was designed by Kowalski et al (2014) via the general aggression model framework (GAM) (Anderson & Bushman, 2002). The GAM pointed out that personal and situational variables influenced the internal state of an individual (cognition, affect and arousal) which in turn, affected their mental, cognitive, social and behavioural status (Anderson & Bushman 2002; Kowalski et al., 2014). GAM provides a systematic and realistic foundation for describing aggression (Gullone & Robertson, 2008; Vannucci et al., 2012) which has been used in past research to explain such behaviour much better. However, Kowalski et al. (2014) explained that the structure of the model can also be extended to explain cyber bullying and victimization personal and situational factors. Therefore, to ensure the relevancy of the unique nature of cyber-based aggression from the victims' perspectives, this study attempts to develop a theoretical framework by integrating several models and theories to measure the incidence of cyber aggression-victimization. Among the theories and models that support these variables affiliations are Cyber Aggression Typology model (CAT) by Nocentini et al (2010); Media System Dependency theory (MSD) by DeFleur and Ball-Rokeach (1989); Attachment Theory (AT) by Ainsworth and Bowlby (1991) and GAM as the underpinning model of the study.

Therefore this research aimed to contribute to the description of the independent predictive ability of each of the variables examined, as well as the identification of potential factors for intervention based on the GAM model. The goal of this work, therefore, is to determine the predictive capacity of personal factors (internet exposure) and situational factors (i.e. parent attachment and peer attachment) for the probability of suffering occasional or severe cyber aggression and victimization in a sample of Malaysian urban youths who live within the Klang Valley area. Until now, these lines of research have not been incorporated into a coherent chain of events and the position of the aforementioned cyber aggression-victimization predictors is scarcely investigated despite youths being avid Internet users.

2. Literature Review

2.1 Cyber Aggression

Aggressors these days have moved from the school grounds to cell phones or PC screenc (Akbar, Huang & Anwar, 2014). As stated by Hinduja and Patchin (2008), the accessibility and utilization of communication technology are on the rise and so is the capacity to become Internet aggressors. Shariff (2008) concurs that the rapid advancement of smartphone technologies and media to communicate online had opened a new and infinite space. These technologies allow youths to explore the Internet with fewer restrictions and offer them convenient opportunities to bully, harass and humiliate others online. In other words, harassing and aggressing individuals have transformed from physical conducts into virtual ones. The behaviours become insidious when they emerge into a form of psychological brutality (Shariff & Hoff, 2007) and in some cases, fatal (Abu Bakar, 2013).

Willard (2007) identified six types of indirect aggression which are conducted through computer-mediated communication (CMC), namely, flaming, defamation, cyber harassment, slandering, impersonation and exclusion. First, flaming is known as online fighting, which means that electronic messages with hostile and vulgar language are used to harm one another. Second, defamation is carried out by spreading secrets, or embarrassing information about the repeated sending of messages. Third, cyber harassment, which involves threats of injury or intimidations. Fourth, ridiculing or maligning to degrade someone, for example, by sending cruel images of others to spoil their social relations or reputation. Fifth, hacking online accounts by impersonating the victims, with the aim of

making them lose face, harm their friendship and reputation. Sixth, an intentional exclusion of someone from an online group simply because they detest that person or a group of people.

Nocentini et al. (2010) recommended a typology model consisting of four primary forms of cyber aggression and victimization validated from Willard's works as follows: visual, written-verbal, online exclusion and impersonation. Popular forms of cyber aggression-victimization are written-verbal (offensive web comments, intimidating or abusive text messages, and disturbing anonymous calls) and 'exclusion' (intentionally excluding an individual from a web group). The least popular type, on the other hand, is visual both sexual cyber harassment and victimization, -capturing and photographing and then disseminating compromising images; happy slapping - humiliating and physically abusing someone then recording and disseminating the acts. If impersonation is included in the model, its incidence is higher than visual aggression and is similar to that of exclusion and verbal aggression (Buelga, et al., 2015; Garaigordobil, 2015). Therefore, as suggested by Yusuf et al. (2020), it is important for the current study to employ this typology model to ascertain the incidences of cyber aggression and victimization in Malaysia. To the best of the researcher's knowledge, there is less research on cyber-aggression-victimisation that has been conducted or even published in this country, involving youth reports as victims and a defined sample, which is broad and representative of the region.

2.2 The Prevalence of Cyber Aggression among Youths

Cyber-based abuse among youths has become a serious educational and societal concern globally over the past decade. Shahbudin (2020) stated that the fulfilment of social media usage is a form of emotional characteristic and personality tendency. Experts from different countries have discovered a relatively high incidence of cyber aggression-victimization among youngsters. For example, 72% of American youths (N=1,454) were victimized while online at least once in the past year, and 13% of them have frequently become victims of cyber aggression (Juvonen & Gross, 2008). A study among Asian countries have also shown a similar trend whereby 50% of Bangladeshi (N=1,896) and 33% of Thai (N=1,336) youths have experienced or have been involved in cyber aggression-victimization (Telenor Group, 2016). In Taiwan, Huang and Chou (2010) found a very high (64%) involvement trend in cyber aggression-victimization among high-school students. The impact of cyber aggression-victimization is more terrifying than physical aggression as victims are threatened 24 hours and seven days a week regardless of the time and place boundaries because the Internet can be accessed unlimitedly (Willard, 2007). Another study found that cyber aggression-victimization also causes psychological cruelty to the victims such as damaging their online status by giving negative and hurtful comments, and social rejection in ways which do not exist in the physical aggression (Raskauskas & Stoltz, 2007).

In Malaysia, the term cyberbullying is used widely to delineate the acts of aggressive cyber behaviour among youthswho are avid Internet users. Numerous media reports in Malaysia have shown that online harassment among children and young adults is rampant. Most cases may well have been underrepresented as people are unaware that it is a significant issue these days (Eek, 2009). While face-to-face aggression usually involves physical abuse, cyber aggression-victimization adversely affects victims' long-term mental health (Durlak, Weissberg & Pachan, 2010). For example, youths who are continuously humiliated and demeaned on social media may suffer from low self-esteem that may lead to severe mental illness such as depression (Alvarez-García et al., 2012; Bonanno & Hymel, 2013).

Evidences abound from various organisations, e.g. Cyber Security, DiGi CyberSafe and Microsoft Corporation, about the rising occurrences of cyber aggression-victimization in Malaysia. According to Microsoft Corporation (2012), Malaysia ranked 17th from 25 countries in cyberbullying occurrences. A statistics compiled by Cyber Security Malaysia indicated that 300 cases of cyber harassment cases were documented in 2012, 512 in 2013, 550 in 2014, 442 in 2015 and 529 in 2016 (The Star Online, 2017). Aggressive cyber acts amounted to around 250 cases in 2012, 389 in 2013, 291 in 2014, 256 in 2015 and 338 in 2016 (The Star Online, 2017). The number has been increasing every yearly (MCMC, 2016). In total, there were 1,524 cyberbullying cases documented over the past five years. Despite the insufficient number of literature on cyberbullying and victimization among Malaysian youngsters, an empirical study conducted by Balakrishnan (2015) found that cyberbullying occurred among Malaysian youths. The study, however, suggests that the incidence of cyberbullying and victimization among respondents (youths aged 17 to 30 years old) was not as prevalent as it is

among younger youths (below 17 years old), and the social networking site (SNS) is the most likely medium where cyberbullying conducts occurred.

Several alarming incidences have been continuously reported since 2010; 87% of 553 children were exposed to unfortunate online experiences; 33% of children aged between 8 and 17 years old have been subjected to cyberbullying and victimization. Additionally, 30% reported to have been bullied online, and 13% reported to have been harassed almost every day by their friends on the Internet (Cyber Security, 2013; Norton Online Family Report, 2010; The Star Online, 2015). Recent national survey found more than 70% of Malaysian teens and adolescents identified themselves with various forms of online harassment, including the posting of improper messages, calling others with mean names and posting of inappropriate photos to someone. 63% posted inappropriate photos, pretended to be someone else and 26% bullied online (Cyber Security, 2014).

University students too have indulged in unsafe activities such as posting photos of themselves on the Internet for other people to watch and passing personal details to strangers that contributed to harmful online experiences (Cheong, 2007). Another survey conducted by DiGi Cyber SAFE revealed quite shocking statistics regarding the children's online risk behaviours: 27% of the children were bullied online whereas 13% of them said they were bullied online every day (Cyber Security, 2013). In 2014, the same agency administered a large scale national survey involving 14,000 high school students to get insights into the patterns of Internet usage of young people in Malaysia (DiGi Cyber SAFE, 2014). The survey revealed some startling facts on cyber aggression incidents involving children. The most common form of online risks was online harassment with 70% posting inappropriate messages and name calling on social media. 65% did not consider sending inappropriate messages, posting inappropriate photos and pretending to be someone else as cyber aggression offences. Given the fact that one in five Malaysian children going online becomes the victim of cyber predators and 30% of young girls are sexually abused in the social media (Azizan, 2012), more research such as this study is needed to understand the phenomenon and to promote a positive mental and physical well-being among Malaysian youths. Given the increasing youth developmental problems due to misuse of the Internet, one relevant question that should be asked is whether there is a valid and heuristic approach or holistic framework to address the youth online risk behaviour? Thus, the current study is designed to determine the predictors that may significantly affect the likelihood of youths getting involves to the act of cyber aggression.

2.3 The Predictive Factors of Cyber Aggression-Victimization

Cyber aggression is a phenomenon that emerges with pervasive incidents that lead to not just serious but also a series of consequences. This is because it is normally conducted with the intention of attacking other youths, that is, to aggress, harm, or offend them deliberately. Thus, it is possible to highlight the urgency to understand the factors influencing involvement in cyber aggression. Researchers have distinguished numerous variables that may increase the likelihood of youths engagement in aggression, including personal factors (age, gender, self-esteem) and situational factors (family, school, peer) as metioned by Hawkins et al. (1998). Unfortunately, fewer studies have examined factors that could increase likelihood of youth involvement. According to Cyber Security (2016) it is estimated that 37% of school-going youths in Malaysia have experienced peer aggression by electronic means at some point of time and 40% of their parents believed that their children had suffered severe cyber victimization (The Star Online, 2017).

2.3.1 Parent Attachment

When it comes to the Internet, most parents perceived the new technology as giving plenty of benefits to their children, e.g. helping with homework and facilitating self-discovery. However, a recent study by Byrne et al. (2014) found that 89% of parents do not know that their children have encountered negative experiences such as online harassment, engage in online pornography and socializing with strangers. Around 15% of youths reported to have had been cyberbullied by others, and unfortunately, only 5% of parents knew about this incident. Therefore, Byrne et al. (2014) postulated that youths who have difficulties in communicating with their parents are not likely to tell their parents about any unpleasant experiences they encounter while going online. As indicated by Wyn, Lantz and Harris

(2012) a healthy connection exists between parents and their children when their part in providing sociological needs based on trust and healthy communication is fulfilled. A communication failure in the relationship between youths and their parents prompts multiple adverse outcomes including depression, dissatisfaction and psychological health disorder (Al Sabbah et al., 2009). Concisely, one of the predictors that contribute to the processes that may help decrease youth's aggressive behaviour is parental attachment (Jakobsen et al., 2012). Findings from various past studies have emphasized parental attachment as a mitigating factor that is associated with lower rates of aggressive behaviour among youths. In other words, a positive attachment between youths and parents will be a factor to mitigate youths' involvement in cyber aggression. Parents also provide a secure foundation for their children's development and have a significant influence on their child's behaviour and attitude. Therefore, Attachment Theory may be a useful notion to explain a better view of the patterns that exist across the transition of youth development and their behaviour at a later stage.

2.3.2 Peer Attachment

Youths expands their social realm by intensifying the significance of the relationships they possess with their peers (denHamer & Konijin, 2015). A plethora of research to date has demonstrated that peers have a substantial impact on the behaviour of youths (Sijtsema et al., 2010; Prinstein, Brechwald & Cohen, 2011). In fact, in one study of adolescents suggests that peer influence is more significant during adolescence years, presumably because this is the period when a child spends a substantial amount of their time with friends and acquaintances and also the time when most peer interactions occur in groups (Steinberg & Monahan, 2007). A healthy emotional relationship between peers which is also known as peer attachment is found to have positive psychological influences on youth behaviour. Peer roles usually compliment the family or parent's roles outside the home and also become an agent of the transition periods into adulthood (Wang & Shi, 2012). During those periods, peers provide emotional and academic supports besides acting as a platform that fosters the development of children social environment. The secure and positive peer attachment will also help youths to shape their individuality and personality.

2.3.3 Internet Exposure

The effects of media exposure do not stop at the violent film and real-life aggression alone, due to youths' ubiquitous part of the new media, the effects have shifted dramatically to the online settings as well. A study by Escobar-Chaves and Anderson (2008) suggested that the leading causes of youth psychosocial problems nowadays are the results of health risk behaviours that have been associated with the exposure to the adverse and risky media contents, including obesity, drinking, smoking, early sexual initiation, and violent behaviours. The media exposure might happen since the web materials (online videos, online games, film clips, music videos) have more interactive characters (unlimited, uncensored, anonymity) compared to the passive media such as TV and radio. The same study (Escobar-Chaves & Anderson, 2008) have also suggested that the interactive nature of this type of media may lead to more powerful effects on youths' behaviour such as sexual solicitation, pornography, online gambling and cyberbullying. Latest studies incorporated a broader scope of exposure to the Internet, including types of risk behaviour and antisocial contents such as sexual harassment, substance abuse (alcohol and drugs) that are related to cyber-based abuse behaviours (denHamer, Konijn, & Keije, 2013). As to date, the role of Internet exposure in youths' cyber aggression behaviour has only been studied to a very inadequate amount. There are few studies indicating a positive association between exposure to violent media content and cyber-based abuse behaviour (Calvete et al., 2010; Dittrick et al., 2013; denHamer & Konijn, 2015). However, no studies conducted thus far that explore the relationship between the Internet exposure and cyber victimization due to aggression among children and youths in Malaysia.

3. Materials And Methods

3.1 Location and Sampling

The Klang Valley area was purposively selected for this study based on suggestions by Neging et al. (2013) and Ramayah and Jantan (2004). Multi-stage sampling technique was employed because of the large size of the study population (N=2,778,300) in the Klang Valley area that consists of three states which are Kuala Lumpur, Putrajaya and Selangor. With some assistance from the youth community clubs, community leaders, and district officers from each region, a total of 430 samples successfully collected during the three weeks of data collection.

3.2 Instrument

3.2.1 Cyber Aggression-Perpetration scale (CYBA)

The measurement was designed through a rigorous review of extended literature across cultures and countries that have supported the four-factor dimensions of cyber aggression and victimization. The Cyber Aggression-Perpetration scale (CYBA) that was recently designed and developed by Alvarez-García et al (2016) was applied. The scale was grounded based on the model proposed by Nocentini et al. (2010); it comprises of four factors of cyber aggression, which are, visual behaviour, written-verbal behaviour, online exclusion and impersonation. The CYBA was also utilized to measure an individual's experience of cyber victimization which is the Cyber Aggression-Victimization (CYVIC). The CYVIC scale mirror the cyber aggression behaviours outlined in the perpetration scale (CYBA), but from the victim's perspective. The CYVIC is developed to assess how frequently youths acknowledge having been a victim of various types of cyber-aggression. For example, "I have been hit, and this has been recorded and then disseminated" and "I have received calls insulting or mocking me". The participants marked the frequency with which they were the victim of each situation in the past six months, on a 5-point Likert-type scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Very Often).

3.2.2 Content-based Media Exposure Scale (C-ME)

The newly developed Content-based Media Exposure Scale (C-ME) by denHamer, Konijn and Keije (2013) was adopted to measure this section. The C-ME scale specifically questions the content that the respondent has been exposed to through Internet use. Therefore, throughout this study, the Internet-Exposure (I-E) scale was used rather than C-ME to capture more precise concepts of the measurement. The I-E scale includes 14-item and measures how frequently people views representations of different antisocial media contents like crime, substance abuse, sex, careless of driving and other general antisocial behaviour (stealing, destroying someone's property). Items are focused on the existing literature on antisocial adolescents and risk behaviour, another three filler items were also included, representing pro-social conduct, such as supporting others, and neutral conduct, such as watching television. (denHamer, Konijn, & Keije, 2013). Responses are ranked on a 5-point Likert scale ranging from 1 (never) to 5 (very often). Sample items, for example, are "On the Internet how often do you watch people fighting? and "On the Internet how often do you watch people destroy someone else's property?". Factor analysis showed that the 11 items belonged to a single factor representing antisocial media content with the strongest internal consistency of 89. (denHamer, Konijn, & Keije, 2013).

3.2.3 Inventory of Parent and Peer Attachment

This study employed an adaptation measurement originated from the Inventory of Parent and Peers Attachment (IPPA). Armsden and Greenberg (1987) developed the inventory based on Bowlby's theory of attachment (1969, 1980) and Greenberg, Siegal and Leitch (1984) inventory of adolescent attachment. The IPPA was developed to measure the attachment among youths below the age of 20 by measuring the positive and negative aspects of youths' relationships with their parents and peers. Formerly, IPPA (Armsden & Greenberg, 1987) consisted of 53 items measuring Parent Attachment

Scale and Peer Attachment Scale. However, previous research provided validation of a shorter 14-item for Parent Attachment Scale, and 17-item for Peer Attachment Scale (Vignoli & Mallett, 2004) this 31-item version has also been used in the Malaysian context (Soh, 2010). Items are scored on a 5-point Likert scale of 1 (never true) to 5 (very often true). Example of the items are including "My parents respect my feelings" and "I feel angry with my friend." Previously, Soh (2010) has also validated this scale with Malaysian children samples and revealed high internal reliability of Parent Attachment (α=85) and Peer Attachment (α=83).

4. Result and Findings

4.1 Demographic profile of respondents

A total of 430 responses were analysed to obtain the respondents' demographic details as presented in Table 1. Of those who participated in the study, 53.7% were male and 46.3% were female; it is obvious that the gender distribution in this study is almost equal. Most of these respondents were Malays (f=329; 76.7%) and of Islam religion (f=339; 78.8%). Regarding the age distributions, there were six age groups involved from which two categories have been identified: the older age (16, 17, 18 years old) and the younger age (13, 14, 15 years old). From these ranges of age, a majority of the respondents were 17 years old (25.3%) followed by those who were 14 years old (21.4%) with M=15.73 and SD=1.75.

Table 1. Distribution of respondent's demographic profile (n=430)

Variables	*f*	%	Mean	SD
Gender				
Male	231	53.7		
Female	199	46.3		
Age (years)			15.73	1.75
13	54	12.6		
14	92	21.4		
15	45	10.5		
16	47	10.9		
17	109	25.3		
18	83	19.3		
Ethnicity				
Malay	329	76.7		
Chinese	49	11.4		
Indian	42	9.8		
Indigenous	8	1.9		
Others	2	.5		
Religion				
Islam	339	78.8		
Buddhism	35	8.1		
Hinduism	35	8.1		
Christianity	20	4.7		
Others	1	.2		
Level of Education				
College	53	12.3		

Lower Secondary (Form1-3)	191	44.4		
Upper Secondary (Form 4-6)	183	42.6		
Not Attending School	3	.7		
Type of School (n=427)				
Public	370	86.0		
Private	57	13.3		
Parents' Monthly Income			3920.19	2895.60
< RM1,500	90	20.9		
RM1,501-RM3,000	163	37.9		
RM3,001-RM5,000	77	17.9		
> RM5,001	100	23.3		

In terms of their educational background, 44.4% of these youths were still in Lower Secondary (Form 1 to Form 3) and 42. 6% were also in Upper Secondary (Form 4 to Form 6). Regarding the socio-economic status of the respondents, 86.7% (f = 330) were from public schools, with parents earning between RM1,501 and RM3,000 per month (37.9%), followed by parents earning more than RM5001 per month (23.3%).

4.2 Patterns of Internet Usage

Table 2 shows that 50.2% (f=216) of the respondents have been using the Internet for four to seven years. The use of a smartphone is almost universal among the youths assessed; 80.5% were using smartphones as a primary device to access the Internet at home (78.1%). Interestingly, although almost 80% of the respondents had Internet access at home, they still availed Internet services at the Internet Café (11.4%). As for the frequency of respondents accessing the Internet, findings revealed that youths mostly surfed the Internet using their smartphones in the afternoon (12 pm to 8 pm) and at night (8 pm to 12 am), which is 28.4% and 45.1%, respectively. This finding revealed that once the school period is over a number of youths immediately engaged themselves with the Internet for almost 12 hours a day (12 pm to 12 am). This discovery led to the next pattern of Internet usage which is the duration of usage during weekdays and weekends.

Table 2. Patterns of Internet Usage (n=430)

Variables	*f*	%	Mean	SD
Internet Experience (years)			5.07	2.52
1 to 3	138	32.1		
4 to 7	216	50.2		
8 to 10	76	17.7		
Access Device				
Desktop Computer (PC)	34	7.9		
Smartphone	346	80.5		
Laptop	33	7.7		
Tablet	10	2.3		
Smart TV	7	1.6		
Access Location				
Home	336	78.1		
School	27	6.3		
Internet Café	49	11.4		

Peer's House	6	1.4		
Public Area	12	2.8		
Frequency				
Morning (8am – 12pm)	36	8.4		
Afternoon (12pm – 8pm)	122	28.4		
Night (8pm – 12am)	194	45.1		
Midnight (12am – 8am)	78	18.1		
Duration during weekdays (hours)			5.78	5.39
Less than 1	45	10.5		
2 to 5	243	56.5		
6 to 10	83	19.3		
11 to 15	31	7.2		
16 to 20	9	2.1		
More than 21	19	4.4		
Duration during the weekends (hours)			7.71	6.45
Less than 1	44	10.2		
2 to 5	163	37.9		
6 to 10	127	29.5		
11 to 15	41	9.5		
16 to 20	19	4.4		
More than 21	36	8.4		
Motives/Purposes				
Socialising in Social Media	312	72.6		
Information Surfing for study/school work	312	72.6		
Listening to music on the Internet	309	71.9		
Watching the video on the Internet	279	64.9		
Information Surfing for personal interests	253	58.8		
Downloading music/movies from Internet	245	57.0		
Playing Web games	198	46.0		
Watching TV on the Internet	174	40.5		
Surfing Pornography	171	39.8		
Checking an email	164	38.1		
Shopping online	156	36.3		
Internet gambling	37	8.6		
Social Media Ownership				
Yes	395	91.9		
No	35	8.1		
Type of Social Media (n=395)				
WhatsApp	327	76.0		
Instagram	326	75.8		
Facebook	196	45.6		
Twitter	138	32.1		
WeChat	133	30.9		
Other	48	11.2		

The results in Table 2 show that more than half of the respondents (56.5%) used the Internet for about two to five hours a day during weekdays. Surprisingly, however, more than one-third reported to have been using the Internet for more than six hours (33%). Although it is a school day, majority of them have chosen to access the Internet after the school period is over. According to Rideout, Foehr and Roberts (2010) Internet users can be categorised into three types: 1) Heavy users who spend more than 16 hours going online each day; 2) Moderate users who spend three to 16 hours online; and 3) Light users who use the Internet less than three hours per day. Thus, based on these categories, youths in this study can be considered as moderate users during the weekdays (M=5.78; SD=5.39).

However, during weekends, a significant change occurred involving respondents who spent two to five hours surfing the Internet (37.9%). The number increased significantly at the duration of six to 10 hours from 19.3% during weekdays to 29.5% during weekends as shown in Table 2. As expected, 51.8% (f=223) of youths spent more than 6 to more than 21 hours going online during weekends, with M=7.71 and SD=6.45. In other words, the moderate Internet users reduced significantly and turned into heavy Internet users during weekends, or also can be categorised as the Internet addicts or the problematic Internet users (Neging et al., 2013). This study, however, does not identify whether the respondents were Internet addicts or not. It is recommended to explore the link between these variables for future research.

Table 2 indicates that the most common purposes of using the Internet among urban youths in the sample are socialising in social media (72.6%) and surfing for information (72.6%); followed by the third common purpose which was using the Internet for leisure or entertainment through music (71.9%), videos (65%), personal interest (59%), playing games (46%), watching TV (41%) and pornography (40%). Over 90% of the sample revealed that they own a social media account (92%) such as WhatsApp (76%), Instagram (75.8%) and Facebook (45.6%).

4.3 Level of Cyber Aggression-Victimization

The first objective of this study is to determine the level of cyber aggression and victimization among youths by using the three-level scales, i.e. low level, moderate level and high level. Hence, the dependent variable of this study was identified based on the four sub-forms of cyber aggression by Nocentini et al (2010) namely visual, verbal, online exclusion and impersonation. The levels were measured using the average composite scores that were derived from the four sub-dimensions as follows:

Table 3. Level of cyber aggression (n=430)

Form of Cyber Aggression	*f*	%	Mean	SD
Visual			1.311	.583
Low (1-2.33)	403	93.7		
Moderate (2.34-3.66)	21	4.9		
High (3.67-5)	6	1.4		
Verbal			1.902	.838
Low (1-2.33)	355	82.6		
Moderate (2.34-3.66)	50	11.6		
High (3.67-5)	25	5.8		
Online Exclusion			1.604	.776
Low (1-2.33)	360	83.7		
Moderate (2.34-3.66)	58	13.5		
High (3.67-5)	12	2.8		
Impersonation			1.435	.729
Low (1-2.33)	381	88.6		

Form of Cyber Aggression	*f*	%	Mean	SD
Moderate (2.34-3.66)	40	9.3		
High (3.67-5)	9	2.1		
Overall				
Low (1-2.33)	398	92.6	1.509	.562
Moderate (2.34-3.66)	28	6.5		
High (3.67-5)	4	.9		

In order to get the overall mean summated scores of cyber aggressions-victimization, all the 19 validated items of cyber aggression-victimization that have passed the CFA were calculated into three categories, namely low (1.00 – 2.33), moderate (2.34 – 3.66), and high (3.67 – 5.00). The findings showed that majority (92.6%) of respondents perceived a low level of victimization. The percentages of youths who reported having experienced moderate (6.5%) and high (1%) levels of victimization via mobile phone or the Internet indicate an insignificant figure (*f*=32). The findings are similar to a previous study conducted by Alvarez-García et al (2016) which also found very low cyber aggression-victimization occurrences among youths in Spain. These two studies that were conducted across different countries and cultures revealed that even though the pervasiveness of the vast majority of these practices is less significant, all forms of cyber aggression-victimization appear to some degree in all the examined samples. It is, therefore crucial to formulate measures for prevention and treatment, particularly considering that the outcomes of this phenomenon can be exceptionally harmful (Kowalski et al., 2014). Findings of Citing a National Survey Report (Cyber Security, 2014) stated that youths who believed they have never been aggressed possibly do not know that they have been aggressed online or they are not sure of the meaning of the act.

4.4 Predictors of Cyber Aggression-Victimization

The second objective is to determine the level of all predictive factors of the study. Thus, this section describes statistically the level of occurrences of all the predictive variables related to this study. Initially, there were six predictive variables of cyber aggression victimization; however, since the study applied the SEM, confirmatory factor analysis (CFA) tests needed to be performed (Li Lei & Wu, 2007). Thus, after the CFA, self-esteem and narcissistic personality factors were deleted due to the insignificance of their measurement. The remaining four variables, i.e. parental attachment, peer attachment, Internet exposure and Internet addiction were then feasible for further analysis. The descriptive analyses of all four predictor factors are presented in the three-level manners as follows:

4.4.1 Parental Attachment

The parental attachment variable was assessed using seven items which were confirmed by the CFA procedures. The mean scores of the items were calculated and divided into three levels, namely low-level, moderate-level and high-level based on the 5-point of Likert scale. Interestingly, the results in Table 4 illustrate that there is insignificant difference between the three levels (M=3.180; SD=.991).

Table 4. Level of parental attachment (n=430)

Level	*f*	%	Mean	SD
			3.180	.991
Low (1-2.33)	102	23.7		
Moderate (2.34-3.66)	178	41.4		
High (3.67-5)	150	34.9		

Only 150 respondents out of 430 have a high level (34.9%) of attachment with their parents; most of them perceived a moderate level (41.4%) of attachment with parents. In fact, the low level of attachment also indicates a relatively significant number. This finding is in much contradiction to numerous studies that repeatedly found school-going children have a high level of attachment with their parents (Parsa et al., 2014; Walden & Beran, 2010).

4.4.2 Peer Attachment

The second predictor variable also had seven items validated by CFA and the scores were summated to get the three levels of peer attachment among youths. Table 5 below summarise the results of the three-level frequency analysis. In comparison to parental attachment, the results of this predictor show a consistent finding with previous studies (Nickerson & Nagle, 2005; Wright et al., 2015). Almost 40% of the respondents have a high-level of attachment with their peers. Similar to the parental attachment findings, most of youths also perceived their attachment with peers was moderate (44%).

Table 5. Level of peer attachment (n=430)

Level	f	%	Mean	SD
			3.222	.928
Low (1-2.33)	84	19.5		
Moderate (2.34-3.66)	189	44.0		
High (3.67-5)	157	36.5		

4.4.3 Internet Exposure

The overall scores of Internet exposure were calculated and categorised into three-level as depicted in Table 6 by using only six out of 14 items that were selected after the CFA analysis. Unpredictably, the results show a majority of the youths (64.2%) responded with a low score of exposure to the Internet, with less than 10% of them have experienced high exposure, and almost 30% reported a moderate level of exposure. In other words, based on the mean composite score (M=2.218), respondents of this study have perceived that they were not being exposed to the Internet significantly although their pattern of Internet usage indicates otherwise.

Table 6. Level of Internet exposure (n=430)

Level	f	%	Mean	SD
			2.218	.950
Low (1-2.33)	276	64.2		
Moderate (2.34-3.66)	117	27.2		
High (3.67-5)	37	8.6		

4.4.4 Structural Equation Modelling

To determine whether the data fit the model accurately, several requirements on fit indices need to be satisfied, such as the relative chi-square (χ^2/df) should be less than 5.0 (Bentler, 1990); the absolute fit measure (GFI, AGFI) and the incremental fit measure (CFI, NFI, TLI and IFI) should be more than .900; and lastly the root-mean-squared error of approximation or RMSEA. Byrne (2010) has suggested that the acceptable guideline values of RMSEA must be less than .080 (refer to Table 7 below).

Table 7. GOF Fit Indices of Structural Model

GOF index	CMIN (χ^2/df)	AGFI	GFI	CFI	NFI	IFI	TLI	RMSEA
Value	1.667 (p=.000)	.912	.929	.968	.923	.968	.963	.039

The fit indices showed that the structural model fits the data very well; relative chi-square (χ^2/df) which was 1.667 has met the criterion of below 5.0 (Bentler, 1990); all the fit measures such as GFI (.929) and IFI (.968) have met the minimum criteria (>.900); and RMSEA (.039) also has met the requirement reasonably. However, according to Hair et al (2010), it is sufficient to observe only three or four requirements to provide adequate evidence of model fit. Collectively, the current study's structural path model was, therefore, judged to also have an ideal model fit of the data (Hair et al., 2010). Results from the structural paths are summarised in Table 8 and also depicted in Figure 1. The results reveal that among the three predictor factors, only the Internet exposure factor has a significant positive relationship with cyber aggression- victimization. The regression weight (Beta=.445) shows that the results support the hypothesis by indicating there is a significant relationship (C.R = 7.568, p = .000).

Table 8. Results of SEM on Effect of Predictors on Cyber Aggression Victimization

Hypothesised Relationships			*b*	SE	Beta	CR	P
Parent Attachment	→	Cyber Aggression Victimization	-.015	.025	-.033	-.587	.557
Peer Attachment	→	Cyber Aggression Victimization	-.016	.027	-.034	-.602	.547
Internet Exposure	→	Cyber Aggression Victimization	.196	.026	.445	7.568	.000

****Significant at the 0.05 level*
R = .377 *R^2 =.199*

In addition, the statistical analysis also shows that the value of Beta indicates an increase of one standard deviation of Internet exposure leads to an increase of .445 of the standard deviation of cyber aggression-victimization. Based on the structural model in Figure 1, $H_{1c}$is accepted at the significance level of .05. Perversely, the other two hypotheses, which are H_{1a} (C.R=-.587; p=.557) and H_{1b} (C.R=-.602; p=.547), showed no significant relationships towards cyber aggression-victimization. Therefore, both hypotheses are rejected.

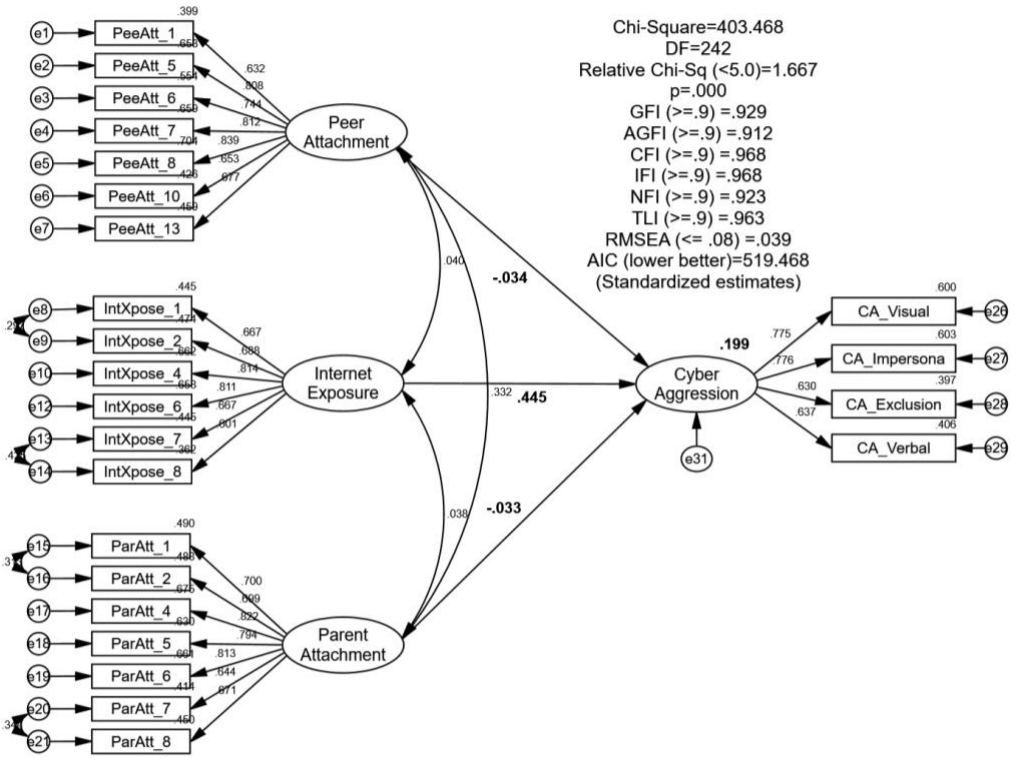

Figure 1: Direct structural path model with standardised estimates

Based on Hair et al (2010) recommendations, the multiple correlation coefficients (R=.377) above indicating the relationship between all the three predictive factors and cyber aggression-victimization is moderate, which implies that about 20% of the variance in the dependent variable was accounted by the combination of the independent variables (R^2=.199). As a conclusion, parent attachment, peer attachment, and Internet exposure contributed to the prediction of cyber aggression-victimization among urban youths in Klang Valley. However, the structural path showed that Internet exposure is the most influential predictor and contributes significantly to the equation.

5. Discussion

In line with the past studies, the most prevalent forms of cyber aggression-victimization among youths are verbal aggression – such as harmful comments online; threatening or insulting text messages and frightening anonymous calls – and exclusion which is deliberately removing someone from an online social grouping (Nocentini et al., 2010). This study stressed that a single incidence of cyber aggression could potentially be harmful to youth well-being as a victim, because the in-direct aggressive behaviours usually ends with psychological consequences such as mental and emotional disorder, self-injuries and suicidal ideation (denHamer, Konijn, & Keijer, 2013). A strong familial bond that relies on an excellent communication at home is the most productive mechanism in accomplishing positive and healthy relationships between youths and their parents. This study suggests that the surveyed youths had a close and positive relationship with their friends. Healthy peer relationships also have a strong psychological encouragement on youth behaviours as it may contribute to the improvement of positive values that create happiness and self-confidence resulted in positive attitudes and behaviours being portrayed. Although the excessive engagement showed by the pattern of Internet usage can be considered as severe, a majority of youths did not confess the Internet has influenced them negatively. Undeniably, exposure to harmful contents during online such as violent media and pornography brings more negative effects on children and youth psychological health. The interactive character and the attractiveness of the Internet compared to the traditional media might be the main reasons why young people these days are oblivious to the harmful effects of the new media (Yusuf et al., 2020)

Furthermore, previous studies found self-esteem and narcissistic trait as more relevant factors to assessing the perpetrator behavior compared to the victim (Locke, 2009; Yang et al., 2006). This may well have been demonstrated by the overwhelming majority of earlier studies on cyber-based abuse in the western population (Wachs et al., 2015) and very limited conducted in the Eastern regions especially Malaysia. Thus, there are reasons to expect that the personality traits among victims may differ between cultures and customs. Western societies emphasise individualistic culture and the presentation of one's own qualities. (i.e. the self is more important than the group; Singelis, 1994) whereas eastern societies prefer collectivistic culture as more important than their personal achievements (Singelis, 1994). Although there is a growing number of researches on this subject, the exact nature of the relation between personality traits and cyber abuse of young people is obscure. Therefore, the researcher believes that more research on youth studies focusing on this subject needs to be conducted.

Unexpectedly, parent attachment is not found the cause of cyber aggression-victimization as parents these days would let their children access the Internet and trust their children judgments on the usage. Thus, a secure and close relationship with parents is not a determinant to not engage in cyber aggression-victimization and it may also promote such behaviour.This study recommends that parents participate in an open discussion with their children and ensure that they feel safe seeking support from their parents when they experience any improper online behaviour. Interestingly enough, the peer attachment that has been identified earlier as a predictive factor was examined in connection with cyber-aggression involvement as a victim and has been identified as either a risk or mitigation factor, depending on the youth endorsement of how higher or lower their level of attachment with their peers is. As predicted, the Internet exposure is the strongest predictor of cyber aggression-victimization. The excessive and repetitive exposure to negative Internet contents such as watching disturbing online acts (sex, pornography, self-harm) and surfing abusive and harmful behaviours (destroying things, stealing, drinking alcohol) are the main contributions to the occurrences of cyber aggression-victimization. These events are not impossible, as web materials (online videos, online games, film clips, music videos) have more interactive characters (unlimited, uncensored, anonymity) compared to traditional media such as TV, film, and radio. Thus, these relationships can be considered as an important piece of literature in the current cyber aggression research especially in Malaysia, and it deepens the understanding of cyber aggression as part of youths' well-being development.

6. Conclusion

With regards to the suggestion of CYVIC as the measurement tool of cyber aggression, this tool provides a measure of verbal cyber aggression which focuses on victimization, similar to multifactorial instruments published to date. Besides that, it also includes a construct of impersonation, visual-sexual cyber victimization, online exclusion, and visual cyber victimization-teasing/happy slapping. These constructs are excluded in most of the previously validated instruments, regardless of the theoretical and practical relevance it offered. Thus, the results of this study suggest that the CYVIC explains better GOF indexes than most of the earlier published instrument.The validation of the CYVIC using the first Asian youths sample contributes to the theoretical development of cyber aggression-victimization and youth studies. This instrument helps to define clearly the cyber aggression-victimization, the forms and types of victimization, and the visible indicators. From a practical standpoint, the CYVIC proposes a reliable and valid measure of cyber aggression victimization, appropriate to be administered in both applied and research contexts. The CYVIC also allows scholars and researchers to detect victims of cyber aggression, specifically among the younger youths, in terms of the prevalence of cyber aggression; the consequences of risk factors associated with cyber aggression; and the most effective prevention and treatment programs. Finally, this study concluded that the application of GAM in this study could be a promising theoretical framework to reduce youths involvement in cyber aggression as a victim. Interestingly enough, to the best of the researchers' knowledge, this model is rarely being used to explain the aggressive behaviour that occurre in the cyber realm. Thus, more studies on cyber aggression-victimization need to be conducted based on GAM to get an explicit stance of its occurrences. Therefore, this study can be considered as a pioneer in cyber aggression study in Malaysia as findings have paved the way for more investigations of this phenomenon to be carried out.

7. Acknowledgement

Authors of this article would like to extend their utmost appreciation to the Research Management Center of UPM for funding the research project under the Geran Putra research grant of Universiti Putra Malaysia, with number: GP-IPS/2017/9759000 that has led to the production of this article. The authors also wish to appreciate the support rendered by Universiti Pendidikan Sultan Idris toward the success of the publication of this article.

8. References

Abu Bakar, H. S. (2013). Investigating the emergence themes of cyberbullying phenomenon: A grounded theory approach. In *the 63rd Annual Conference International Council for Educational Media (ICEM)*, 1-4 October, Nanyang Technological University, Singapore, IEEE.

Ainsworth, M. D. S., & Bowlby, J. (1991). An Ethological approach to personality development. *American Psychologist,* 46, 333-341. http://dx.doi.org/10.1037/0003-066X.46.4.333

Akbar, J., Huang, T. W., & Anwar, F. (2014). *The development of cyberbullying scale to investigate bullies among adolescents*. In proceedings of *the International Conference on Humanities Sciences and Education ICHE2014,* 24-25 March, Kuala Lumpur, MALAYSIA

Al Sabbah, H., Vereecken, C. A., Elgar, F. J., Nanse, T., Aasvee, K., Abdeen, Z., Ojala, K., Ahluwalia N., & Maes, L. (2009). Body weight dissatisfaction and communication with parents among adolescents in 24 countries: International cross-sectional survey. *BMC Public Health*, *9*, 1-10.

Alvarez-García, D., Barreiro, A., Núñez, J. C., & Dobarro, A. (2016). Validity and reliabilitiy of the cyber-agression questionnaire for adolescents (CYBA). *Eur. J. Psychol. Appl. Legal Context 8*, 69–77. doi: 10.1016/j.ejpal.2016.02.003

Alvarez-García, D., Menéndez, S., González-Castro, P., & Rodríguez, C. (2012). Hyperactivity-impulsivity and attention deficit as predictors of involvement in school violence situations. *International Journal of Psychology and Psychological Therapy, 12*, 185–202

Alvarez-García, D., Núnez Pérez, J. C., González, A. D., & Pérez, C. R. (2015). Risk factors associated with cybervictimization in adolescence. *International Journal of Clinical and Health Psychology, 15*, 226-235. doi.org/10.1016/j.ijchp.2015.03.002 1697-2600/

Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology*, 53, 27–51. doi: 10.1146/annurev.psych.53.100901.135231

Ang, R. P., Tan, K., & Mansor, T. A. (2011). Normative beliefs about aggression as a mediator of narcissistic exploitativeness and cyberbullying. *Journal of Interpersonal Violence*, *26*, 2619–2634. doi:10.1177/ 0886260510388286

Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427-454.

Azizan, H. (2012). Do you know whom your kids are talking to?. *The Star Online*. Retrieved on January 28, 2014 from http://www.thestar.com.my/News/Nation/2012/04/29/Do-you-know-who-your-kids-are-talking-to/

Balakrishnan, V. (2015). Cyberbullying among young adults in Malaysia: The roles of gender, age and Internet frequency. *Computers in Human Behaviour*, *46*, 149-157. doi: 10.1016/j.chb.2015.01.021

Bentler, P. M. (1990). Comparative indexes in structural models. Psychological Bulletin, 107, 238–246.

Berne, S., Frisén, A., Schultze-krumbholz, A., Scheithauer, H., Naruskov, K., Luik, P., Katzer, C., Erentaite, R., & Zukauskiene, R. (2013). Aggression and violent behaviour cyberbullying assessment instruments: A systematic review. *Aggression and Violent Behaviour*. *18*, 320-334.

Bonanno, R. A., & Hymel, S. (2013). Cyber bullying and internalising difficulties: Above and beyond the impact of traditional forms of bullying. *Journal of Youth and Adolescence, 42*, 685-697. http://dx.doi.org/10.1007/s10964-013-9937-1

Buelga, S., Cava, M. J., Musitu, g., & Torralba, E. (2015). Cyberbullying Aggressors among Spanish Secondary Education Students: An Exploratory Study. *Interactive Technology and Smart Education, 12(2), 100-115.* https://doi.org/10.1108/iTSE-08-2014-0025.

Byrne, B. M. (2010). Structural equation modelling with AMOS: Basic concepts, application and programming, (2nd ed.). New York: Routledge Taylor & Francis Group.

Byrne, S., Jean Katz, S., Lee, T., Linz, D., & McIlrath, M. (2014). Peers, predators, and porn: Predicting parental underestimation of children's risky online experiences. *Journal of Computer-Mediated Communication*, *19*(2), 215-231.

Calvete, E., Orue, I., Estevez, A., Villardon, L., & Padilla, P. (2010). Cyberbullying in adoles- cents: Modalities and aggressors' profile. *Computers in Human Behaviour*, *26*, 1128-1135.

Cheong, L. M. (2007). Internet safety and Malaysian students: a study of female undergraduates and their net pals. *Asian Journal of University Education*, *3*(2), 23-35.

Corcoran, L., Mc Guckin, C., & Prentice, G. (2015). Cyberbullying or cyber aggression? A review of existing definitions of cyber-based peer-to-peer aggression. *Societies, 5*, 245-255. https://doi.org/10.3390/soc5020245.

Cyber Security Malaysia. (2014). *Safeguard children from cyberbullying*. Cyber Security of Malaysia. Retrieved 2 March 2017 from http://cybersecurity.my/data/content_files /11/1239.pdf?.diff=1393218174

Cyber Security. (2013). *A National survey report 2013. Safety net: Growing awareness among Malaysian schoolchildren on staying safe online*. Cyber Security of Malaysia. Retrieved December 4, 2013 from https://digi.cybersafe.my/files/article/ DiGi_Survey_Booklet_COMPLETE.pdf

DeFleur, M. L., & Ball-Rokeach, S. J. (1989). *Theories of mass communication*. (4th ed.). New York: Longman.

DenHamer, A. H., & Konjin, E. A. (2015). Adolescents' media exposure may increase their cyberbullying behaviour: A longitudinal study. *Journal of Adolescent Health*, *56*(2), 203-208.

DenHamer, A., Konjin, E. A., & Keijer, M. G. (2013). Cyberbullying Behavior and adolescents' use of media with antisocial content: A cyclic process model. *Cyberpsychology, Behaviour and Social Networking*, *17*(2), 74–81.

DiGi Cyber SAFE. (2014). *Nationwide online safety survey report; Cybersafe in schools*. *(A National Survey)*. Kuala Lumpur, Malaysia. Retrieved from https://digi.cybersafe.my/files/article/CyberSAFE_Survey_Report_2014.pdf

Dittrick, C. J., Beran, T. N., Mishna, F., Hetherington, R., & Shariff, S. (2013). Do children who bully their peers also play violent video games? A Canadian national study. *Journal of School Violence*, *12*(4), 297–318. doi: 10.1080/15388220.2013.803244.

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology, 45*(3-4), 294-309. http://dx.doi.org/10.1007/s10464-010-9300-6

Eek, T. S. (2009). "A big sister helps students cope with bullying," UNICEF, 4 October 2009. Retrieved from http://www.unicef.org/infobycountry/malaysia_51549.html.

Escobar-Chaves, S. L. & Anderson, C. A. (2008). Media and risky behaviours. *Future of Children, 18*, 147-180.

Faryadi, Q. (2011). Cyberbullying and academic performance. *International Journal of Computational Engineering Research*, *1*(1), 23-30.

Fillamenta, N. (2018). Teenagers Self-Identity Who Experience Internet Addiction. Asian Journal of Assessment in Teaching and Learning, 8, 1-6.

Garaigordobil, M. (2015). Psychometric properties of the cyberbullying test, a screening instrument to measure cybervictimization, cyberaggression, and cyberobservation. *Journal of Interpersonal Violence.* 1–21. doi: 10.1177/0886260515600165.

Ghazali, A. H., Abdullah, H., Omar, S. Z., Ahmad, A., Abu Samah, A., Ramli, S. A., & Shaffril, H. A. (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/IJARBSS/v7-i4/2782

Greenberg, M., Siegal, J., & Leitch, C. (1984). The nature and importance of attachment relationships to parents and peers during adolescence. *Journal of Youth Adolescents, 12*(5), 373-386.

Gullone, E., & Robertson, N. (2008). The relationship between bullying and animal abuse behaviours in adolescents: The importance of witnessing animal abuse. *Journal of Applied Developmental Psychology*, 29, 371–379. doi: 10.1016/j.appdev.2008.06.004

Hair, Jr., J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis, (7th ed.). Upper Saddle River, New Jersey: Prentice Hall.

Hawker, D. S., & Boulton MJ (2000). Twenty years' research on peer victimization and psychosocial maladjustment: a meta-analytic review of cross-sectional studies. *J Child Psychol Psychiatry*. 41:441–455.

Hawkins, J. D., Herrenkohl, T., Farrington, D. P., Brewer, D., Catalano, R. F., & Harachi, T. W. (1998). In R., Loeber & D. P. Farrington (Eds.), *Serious and violent juvenile offenders: Risk factors and successful interventions* (pp. 106-146). Thousand Oaks, CA: Sage.

Hertz, M. F., & David-Ferdon C. (2011). Online aggression: A reflection of in-person victimization or a unique phenomenon? *J Adolesc Health 2011;*48:11-20.

Hinduja, S., & Patchin, J. W. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behaviour*, *29*, 129–156.

Hoeve, M., Stams, G. J. J. M., Put, C. E., Dubas, J. S., Laan, P. H., & Gemis, J. R. M. (2012). A meta-analysis of attachment to parents and delinquency. *Journal of Abnormal Child Psychology*, *40*, 771-785.

Huang, Y., & Chou, C. (2010). An analysis of multiple factors of cyberbullying among junior high school students in Taiwan. *Computers in Human Behaviour*, *26*, 1581–1590. http://dx.doi.org/10.1016/j.chb.2010.06.005.

Jakobsen, I, S., Horwood, L, J., & Fergusson, D, M. (2012). Childhood anxiety/withdrawal, adolescent parent-child attachment and later risk of depression and anxiety disorder. *Journal Child Family Study*, *21*, 303-310.

Ji, Y., Wang, G., & Zhu, Z. (2014). Online social networking behaviours among Chinese younger and older adolescent: The influences of age, gender, personality, and attachment styles. *Computers in Human Behaviour*, *41*, 393–402.

Juvonen, J., & Gross, E. F. (2008). Extending the school experiences in cyberspace. Journal of School Health, 78(9), 496-505.

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta- analysis of cyberbullying research among youth. *Psychological Bulletin*, *140*, 1073-1137. http://dx.doi.org/10.1037/a0035618

Law, D., Shapka, J., Domene, J., & Gagne, M. (2012). Are Cyberbullies really bullies? An investigation of reactive and proactive online aggression. Computers in Human Behavior. 28. 664-672. 10.1016/j.chb.2011.11.013.

Li Lei, Y, & Wu, M. A. (2007). Adolescents' paternal attachment and Internet Use. Cyberpsychology & Behaviour, 10, 633-639

Locke, K. (2009). Aggression, narcissism, self-esteem, and the attribution of desirable and humanising traits to self versus others. *Journal of Research in Personality, 43*, 99-102.

MCMC. (2016). *Internet users survey 2016*. Retrieved 3 June 2016 from http://www.skmm.gov.my/Resources/Statistics/Internet-users-survey/Hand-Phone-Users-Survey-2016

Microsoft Corporation. (2012, June 25). *Online bullying is a top concern among youth*. Microsoft News Centre. Retrieved from *http://www.microsoft.com/en-us/news/press/2012/jun12/06 25youthbehaviorpr.aspx*

Neging, P., Musa, R., & Abdul Wahab, R. (2013). The determinants and outcomes of pathological Internet use (PIU) among urban millennial teens: A theoretical framework. *World Academy of Science, Engineering and Technology*, *74*, 02-21.

Nickerson, A. B., & Nagle, R. J. (2005). Parent and peer attachment in late childhood and early adolescence. *Journal of Early Adolescence*, *25*(2), 223-249.

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 & Counselling*, *20*, 129-142.

Norton Online Family Report. (2010). Global insights into family life *online*. Retrieved from http://us.norton.com/content/en/us/home_homeoffice/media/pdf/nofr/Norton_Family-ReportUSA_June9.pdf

Parsa, N., Yaacob, N., Redzuan, M, & Esmaeili, N. (2014). Parental attachment, inter-parental conflict and late adolescent's self-efficacy. *Asian Social Science*; *10*(8).

Pimentel, C. (2016). Personality and aggression: A contribution of the general aggression model. *Estudos de Psicologia Campinas*, *33*(3), 443-451.

Prinstein, M. J., Brechwald, W. A., & Cohen, G. L. (2011). Susceptibility to peer influence: Using a performance-based measure to identify adolescent males at heightened risk for deviant peer socialisation. *Developmental Psychology, 47*(4), 1167–1172. doi: http://dx.doi.org.ezproxy.uvm.edu/10.1037/a0023274

Ramayah, T., & Jantan, M. (2004). Internet usage among Malaysian students: The role of demographic and motivational variables. *The Journal of Management Awareness*, *7*(2), 59-70.

Raskauskas, J., & Stoltz, A. D. (2007). Involvement in traditional and electronic bullying among adolescents. *Developmental Psychology*, *43*, 564–575.

Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). Generation M2: Media in the lives of 8- to 18-year-olds. Kaiser Report 2010. Retrieved from http://www.kff.org/entmedia/upload/8010.pdf.

Schoffstall, C. L., & Cohen, R. (2011). Cyber aggression: The relation between online offenders and offline social competence. *Social Development, 20*(3), 587-604. http://dx.doi.org/10.1111/j.1467- 9507.2011.00609.x

Shahbudin, M. S. I. (2020). Kepanikan Pengguna Media Sosial Terhadap Virus Covid 19. *PENDETA Journal of Malay Language, Education and Literature*. Vol (11), 1-10.

Shariff, S. (2008). Cyberbullying: Issues and solutions for the school, the classroom and the home. New York: Routledge.

Shariff, S., & Hoff, D. (2007). Cyber bullying: Clarifying legal boundaries for school supervision in cyberspace. *International Journal of Cyber Criminology*, *I*(1), 76-118.

Shuib, S. (2014*)*. Cyberbullying on the rise in 2014: Who is responsible for the phenomenon? *Astro Awani Online*. Retrieved on 7 July 2016 from http://english.astroawani.com/before-2015/cyberbullying-rise-2014-who-responsible-phenomenon-50681

Sijtsema, J. J., Ojanen, T., Veenstra, R., Lindenberg, S., Hawley, P. H., & Little, T. D. (2010). Forms and functions of aggression in adolescent friendship selection and influence: A longitudinal social network analysis. *Social Development, 19*(3), 515–534. doi: http://dx.doi.org.ezproxy.uvm.edu/10.1111/j.1467- 9507.2009 .00566.x

Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin*, 20, 580-591.

Soh, C., H. (2010). *Influence of parents and peers on Internet usage and addiction amongst school-going youths in Malaysia.* Multimedia University Malaysia. PhD dissertation.

Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer influence. *Developmental Psychology, 43*(6), 1531–1543. doi: http://dx.doi.org/10.1037/0012-1649.43.6.1531

Teimouri, Hassan, Bolong, Daud, Yusuf, & Adzharuddin. (2014). What is up-setting our children online. *Procedia-Social and Behavioural Science*, *155,* 411-416.

Telenor Group. (2016). *Telenor Group supports 'Stop Cyberbullying Day 2016'across its markets in Asia.* Press Release on 17 June 2016. Retrieved 4 June 2017 from https://www.telenor.com/media/press-release/telenor-group-supports-stop-cyberbullying-day-2016/

The Star Online. (2017). 'Cyberbullying: Words can hurt too'. Retrieved 21 February 2018 from https://www.thestar.com.my/news/nation/2017/10/19/cyberbullying-words-can-hurt-too/

The Star Online. (2017). 'On the alert for cyberbullying.' Retrieved 27 November 2017 from https://www.thestar.com.my/opinion/letters/2017/04/11/on-the-alert-for-cyberbullying/

The Star Online. (2018). 'Our teens are bullies.' Retrieved 19 April 2018 from https://www.thestar.com.my/news/nation/2018/03/18/behaving-badly-in-cybers pace-malaysian-teens-more-likely-to-be-cyberbullies-than-victims-says-study/

Thomaes, S., Bushman, B. J., Stegge, H., & Olthof, T. (2008). Trumping shame by blasts of noise: Narcissism, self-esteem, shame, and aggression in young adolescents. *Child Development*, *79*, 1792–1801.

Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behaviour*, *26*, 277–287.

Tomé, G., & Matos, M. G. (2012). How can peer group influence the behaviour of adolescents: Explanatory model. *Global Journal of Health Science, 4*(2), 26-35. http://dx.doi.org/10.5539/gjhs.v4n2p26.

Tsitsika, A.1., Critselis, E., Kormas, G., Filippopoulou, A., Tounissidou, D., Freskou, A., Spiliopoulou, T., Louizou, A., Konstantoulaki, E., & Kafetzis, D. (2009). Internet use and misuse: a multivariate regression analysis of the predictive factors of internet use among Greek adolescents. *Eur J Pediatr*, 168 (6), 655-665

Van Geel, M., Vedder, P., & Tanilon, J. (2014). Relationship between peer victimization, cyberbullying, and suicide in children and adolescents: A meta-analysis. *JAMA Paediatrics, 168*(5), 435–442. doi:10.1001/jamapediatrics. 2013.4143.

Vannucci, M., Nocentini, A., Mazzoni, G., & Menesini, E. (2012). Re-calling unpresented hostile words: False memories predictors of traditional and cyberbullying. *European Journal of Developmental Psychology*, *9*, 182–194. doi:10.1080/17405629.2011.646459

Vignoli, E., and Mallet, P. (2004). Validation of a brief measure of adolescents' parent attachment based on Armsden and Greenberg's three-dimension model. *Revue europeene de psychologie appliquee, 54*, 251-260.

Vivolo-Kantor, A. M., Martell, B. N., Holland, K. M., & Westby, R. (2014). A systematic review and content analysis of bullying and cyber-bullying measurement strategies. *Aggression and Violent Behaviour*, *19*, 424-434.

Wachs, S., Junger, M., & Sittichai, R. (2015). Traditional, cyber and combined bullying roles: Differences in risky online and offline activities. Societies, 5(1), 109–135. doi:10.3390/soc5010109.

Walden, L. M., & Beran, T. N. (2010). Attachment quality and bullying behaviour in school-aged youth. *Canadian Journal of School Psychology, 25*, 5-18.

Wang, J., & Shi, M. (2012). Moderating and mediating effect of motives on the relation between online games playing and mental health in adolescents. *Psychological Exploration, 32*(3), 282-286.

Werner, N. E., Bumpus, M. F., & Rock, D. (2010). Involvement in Internet aggression during early adolescence. *Journal of Youth and Adolescence, 39*, 607–619. doi:10.1007/s10964-009-9419-7

Wiedeman, Jacqueline, Emmanuel, Finney & Coker. (2015). Factors influencing the impact of aggressive and violent media on children and adolescents, *Aggression and Violent Behaviour.* http://dx.doi.org/10.1016/j.avb.2015.04.008

Willard, N. (2007). *Cyberbullying and cyberthreats. Responding to the challenge of online social aggression, threats, and distress*. Illinois: Research Press.

Wright, M. F., Aoyama, I., Kamble, S. V., Li, Z., Soudi, S., Lei, L., & Shu, C. (2015). Peer attachment and cyberbullying involvement among Chinese, Indian, and Japanese adolescents. *Societies, 5*(2), 339–353. doi: 10.3390/soc5020339

Wyn, J., Lantz, S., & Harris, A. (2012). Beyond the 'transitions' metaphor: Family relations and young people in late modernity. *Journal of Sociology*, *48*, 3-22. http://dx.doi.org/10.1177/1440783311408971

Yang, S., Kim, J., Kim, S., et al. (2006). Bullying and victimization behaviours in boys and girls at South Korean primary schools. *Journal of the American Academy of Child and Adolescent Psyhiatry* 45(1): 69-77.

Ybarra, M. L., & Mitchell, K. J. (2004). Youth engaging in online harassment: Associations with caregiver-child relationships, Internet use, and personal characteristics. *Journal of Adolescent Health*, *27*, 319–336.

Yusuf, S., Idris, K., Samah, A. A., Ibrahim, A., Ramli, N. S., Ibrahim, M. S., & Rahman, N. A. A. (2020). Keyboard Warrior, Online Predator or Cyber Bully? The Growing Menace of Child Exposure to Internet Harm based on Research Evidence. *Pertanika J. Soc. Sci. & Hum.* 28 (2): 1291 - 1309

Yusuf, S., Hassan, M. S., Abu Samah, B., Ibrahim, M. S., Ramli, N., A. Rahman, N. A & Osman, M. N. (2018). Parental attachment and cyberbullying experiences among Malaysian children. *Pertanika Journal of Scholarly Research Reviews (PJSRR), 4*(1), 2462-2028.