



A Systematic Literature Review on Characteristics of Cyberbullying

Yusof Nur Amalina¹, Muruga Chinniah¹, Akmal Aini Othman¹, Palaniappan Shamala² and Ali Hussein Zolait³

¹Faculty of Business Management, Universiti Teknologi MARA (UiTM), Segamat, Johor, Malaysia

²Faculty of Computer & Mathematical Sciences, Universiti Teknologi MARA (UiTM), Segamat, Johor, Malaysia

³College of Information Technology, University of Bahrain, Sakhir, Kingdom of Bahrain

Received 11 Mar. 2021, Revised 24 Mar. 2022, Accepted 17 May 2022, Published 15 Jun. 2022

Abstract: Traditional bullying is a well-known global phenomenon. The rapid development of technology and technological sophistication has led to the emergence of bullying into the virtual world, known as cyberbullying. Numerous studies have covered the areas of cyberbullying, especially on the characteristics of cyberbullying. However, there are many characteristics of cyberbullying that have been discussed by many researchers, but they are yet to be covered in one complete paper. This study aims to determine the characteristics of cyberbullying by conducting systematic literature review on articles that differentiate it from traditional bullying. This study adopts the PRISMA flowchart and the table of analysis to compare cyberbullying characteristics among 39 authors. The researcher has established through comparison on characteristics of cyberbullying that the characteristics listed in the table have an influential role in cyberbullying, which differentiates it from traditional bullying. The analyses results inspire in generating cyberbullying characteristics, known as quality of technology, anonymity, publicity, physical distance, lack of supervision, no escape, and availability to access anytime and anywhere.

Keywords: Cyberbullying, Traditional Bullying, Characteristics of cyberbullying, Comparisons of bullying, Differences

1. INTRODUCTION

Traditional bullying is a kind of abuse that occurs at schools worldwide, which is known to be violent and repeatedly and intentionally perpetrated by some students towards other students who are weak, both physically and psychologically [1]. According to Piotrowski [2], cyberbullying can be defined as the use of information and communication technology (ICT) to carry out a series of actions that are intended to hurt others who are unable to defend themselves. Langos [3] stated that cyberbullying involves using ICT to carry out a series of actions that are intended to hurt or harm others who cannot defend themselves. A single click can give a dreadful result towards the victim, in which someone can be destroyed, humiliated, or worse, driving others towards suicide. There are many variants of the definition for cyberbullying, but the commonly used one is by [4] who claimed, "an aggressive act or behaviour that is carried out by a group or an individual repetitively and overtime using electronic against a victim who cannot easily defend him or herself." Cyberbullying is also can be referred as online bullying or harassment. It is usually spread, especially between adolescents and teenagers [5]. Youth is the extremely widespread users of the emerging

ICT or technology, making them heavily exposed to online opportunities and online risks such as cyberbullying [6].

Traditional bullying and cyberbullying have been functionally similar by the policymakers and educators [7]. A previous study showed that individuals involved with traditional bullying also tend to be engaged in cyberbullying [8]. However, researchers have showed the distinctions of cyberbullying to traditional bullying, whereby cyberbullying phenomenon has been considered as being severe than traditional bullying [9]. Research conducted by Buelga *et al.* [10] mentioned that the electronic devices' characteristics have a high capacity to cause harm, providing a platform to make bullying easy to attempt and increase the level of psychological suffering among adolescent victims [9], [11], [12], [13], [14], [15]. Olweus [16] argues that cyberbullying is identical to traditional bullying but occurs through electronic forms. However, there is an ongoing discussion about the extent to which cyberbullying or online bullying should be characterized and conceptualised distinctly different from or same as traditional bullying [17], [18]. Technology characteristics, which do not exist in traditional bullying, make cyberbullying distinct from traditional bullying.



The researcher of this study found out that there is yet a study on this scope to identify and differentiate cyberbullying characteristics from traditional bullying. Ansary [19] said that there are many aspects of cyberbullying from its definition, prevalence rate, risk factors, outcomes, protective factors, and prevention strategies, all of which are related and slightly different from traditional bullying. This study is conducted to inform the scientific debate about cyberbullying, especially on its characteristics. The researchers observed a lack of information gathering on the characteristics of cyberbullying, which is an important element for understanding cyberbullying in-depth. Many authors have stated and identified the characteristics of cyberbullying; however, there is a lack of research on information and knowledge gathering that is specific to the characteristics of cyberbullying in a single paper. Therefore, the researcher carried out this study using a systematic literature review to identify and gather all cyberbullying characteristics from the previous studies and then analyse these characteristics to establish the key characteristics of cyberbullying.

2. METHODOLOGY

The methodology used for this study is PRISMA flowchart for the selection process of articles and analysis of systematic literature review in this paper.

Figure 1 shows the flow of study selection for this study. The PRISMA flowchart acts as a guideline for performing a systematic review [20]. This study adopts PRISMA flowchart because it is useful in reporting the preferred items for a systematic literature review. PRISMA flowchart helps to provide a systematic and strategic flow of information, where in every flow in PRISMA, the record articles identified have a tracking number that is manually filled in by the researcher, inclusion, exclusion, and reasons of exclusions of the articles. There are four flows in PRISMA, which are identification, screening, eligibility, and inclusion.

A. Search Strategy

The first step is the identification, which demonstrates how the researcher searches for the articles for this study. An electronic search space, such as Science Direct, Scopus, Emerald Insight, and Google Scholar, were explored for this work. The searching was limited to the documents from the year 2010 until October 2020. Keywords and search strategies were dependent on each database's search engines, in which they were chosen to locate the maximum number of studies. The terms included with reference to the context (cyberbullying, traditional bullying, online bullying, Internet bullying, Internet aggression, electronic aggression), study population (child, adolescents, and youth or young adults), and methodology (qualitative and quantitative), using both Boolean operators AND and OR to do the searching in both title and abstract section.

The example of search string used for this study ("cyberbullying" OR "online bullying" OR "internet bullying"

OR "internet aggression" OR "electronic aggression" OR "traditional bullying") AND ("characteristic*" OR "character*" OR "different*" OR "differ*" OR "comparison*"). Therefore, the search should be extensive enough to ensure to include all potential and related papers and, at the same time, the search should also be rigorous enough to ensure only to locate relevant documents. Totally 404 articles related to this study have been identified.

B. Study Selection

After the process of article identification or article searching from electronic databases, the articles were then removed of its duplicates. The duplicate articles will impede the process of selecting the articles required or related and important for the study. The articles then undergo the screening process via their titles and abstracts; unrelated titles and abstracts were excluded from this study. Totally 116 articles were viewed as full-text articles, which are assessed for eligibility and excluded with the reasons stated in the inclusion and exclusion criteria of this study, which totalled 77 articles. Finally, after all of the processes, the researcher obtained the total number of articles or papers that are included in this systematic literature review, totaling 39 articles.

C. Inclusion and exclusion criteria

Inclusion:

- Articles were written in English.
- Studies published from 2010 to October 2020.
- The articles mentioned the traditional bullying and cyberbullying was performed by children, adolescents and youth.
- The articles mentioned the cyberbullying characteristics or the differences or compared among cyberbullying and traditional bullying.

Exclusion:

- Studies focused on traditional bullying and cyberbullying in working environment or at the workplace.
- The studies from any journal and data sources seemed to be repeated or duplicated.
- Papers do not satisfy the quality criteria.

D. Coding Strategy

All the selected studies were analyzed and coded based on database reporting, where searching were conducted, numbers of articles included in each review, and the characteristics, which different cyberbullying from traditional bullying. The researcher listed and gathered all of the characteristics in a table from the articles selected using PRISMA flowchart and viewed by the researcher in total of 39 articles. After identifying articles using PRISMA

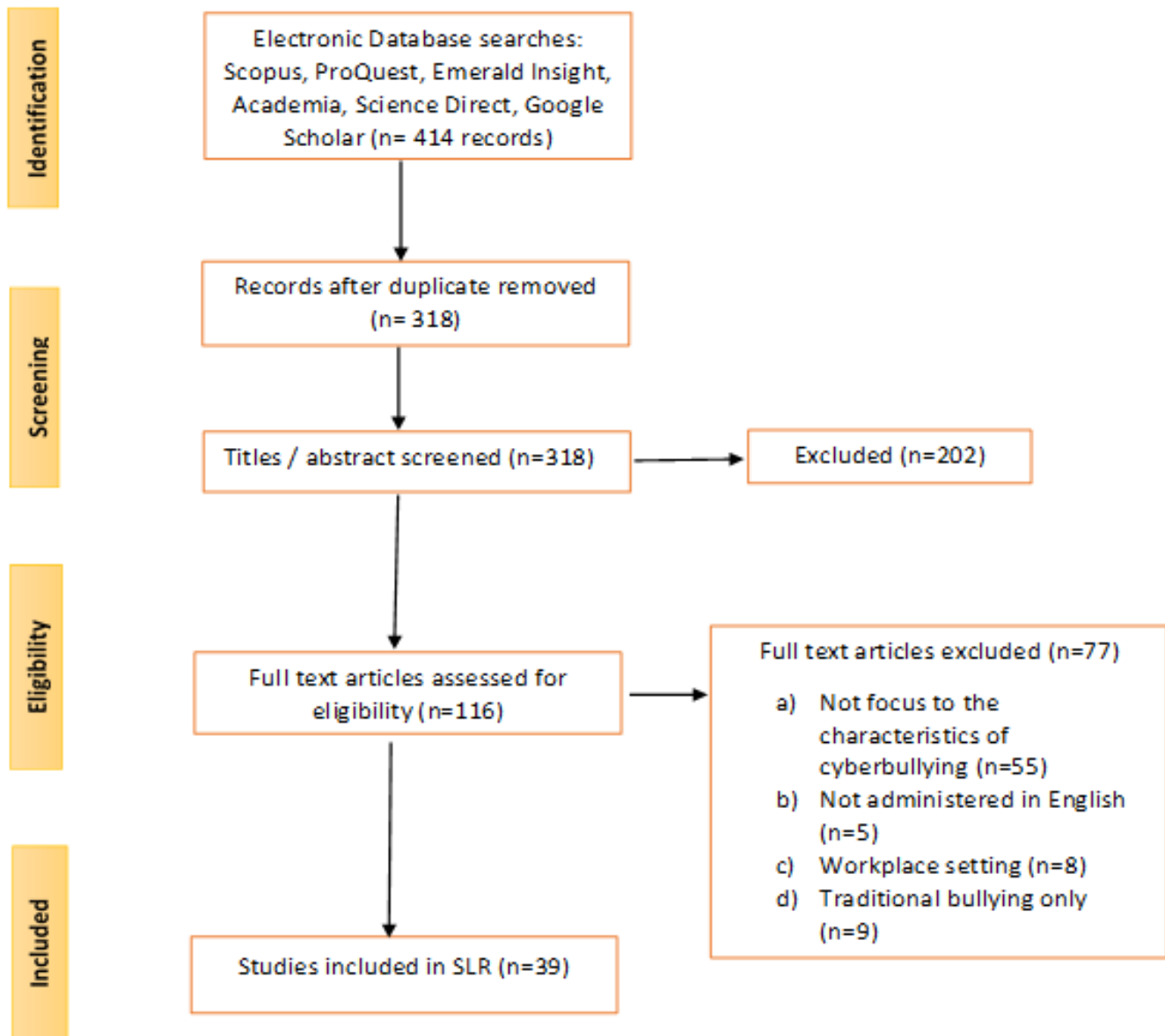


Figure 1. PRISMA flowchart of study selection

flowchart, the method continued with the process of analyzing the characteristics of cyberbullying.

As the researcher has gathered and listed all the characteristics of cyberbullying, the purpose of analyzing cyberbullying characteristics is to establish findings for this study. To analyse the characteristics, the researcher had selected 37 characteristics that showed more views or mentions given by authors. The process is continued as shown in Figure 2 with the researcher selecting 14 characteristics that have more frequently appeared in the author's articles as cyberbullying characteristics. In 14 characteristics of cyberbullying that had been chosen by the researcher, there are only seven characteristics of cyberbullying selected for

the findings of this study.

3. RESULT

According to the analysis of the systematic literature conducted in this work, can conclude cyber bullying and traditional bullying have different characteristics. Cyberbullying is a unique phenomenon and has its own characteristics, which differentiates cyberbullying from traditional bullying. Therefore, it is important to distinguish cyberbullying from traditional bullying by its unique characteristics to establish the definition of cyberbullying and obtain a better understanding of cyberbullying. Cyberbullying is driven by perceived anonymity, the release of uncontrolled information, and easy access to e-communication that have

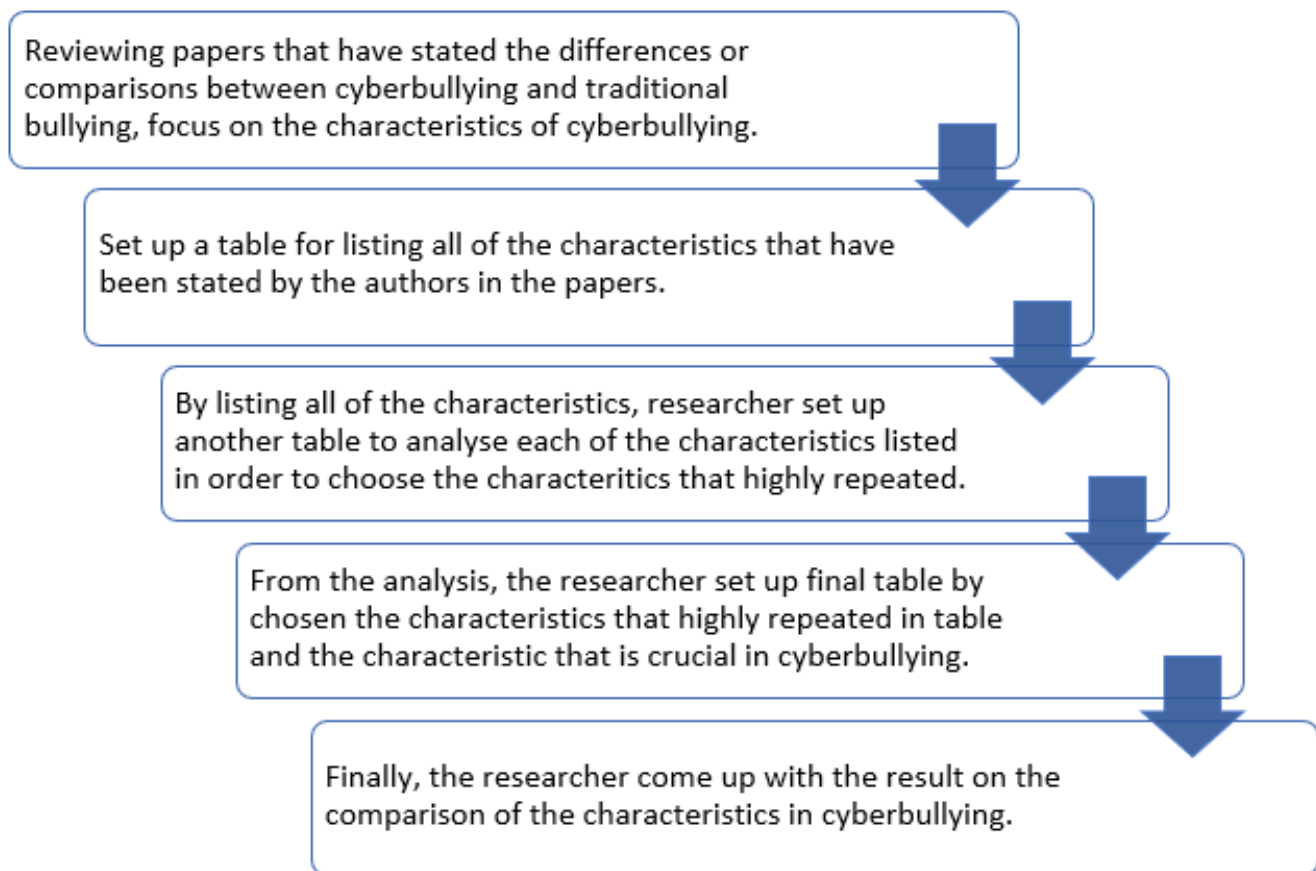


Figure 2. Flow of comparison on characteristics of cyberbullying

eliminated the need for physical contact of perpetrators and victims [21]. These characteristics were chosen because of the cruciality of each characteristic to cyberbullying.

The researchers have chosen seven cyberbullying characteristics based on the comparison for the cyberbullying characteristics presented in Table I. These characteristics are anonymity, publicity, physical distance, lack of supervision, anytime and anywhere, no escape, and quality of technology and electronic device as it is crucial for cyberbullying characteristics. Tokunaga [9] has stated that the qualities of technology have an influence to the cyberbullying. As the quality of technology and electronic device kept improving day by day, year by year, it is a tool that can easily be accessed and convenient for the user, especially for committing cyberbullying [22], [23], [24], [25], [26], [27], [28], [29], [30], [31], [32], [33], [34], [35], [36], [37], [38], [39], [40], [41], [42], [43], [44], [45], [46], [47], [48], [49], [50], [51], [52], [53], [54], [55], [56], [57], [58], [59].

Technology, including the Internet, is a famous tool or platform that allows humans to keep in touch with the outside world. Therefore, it provides boundless benefits or advantages for youngsters' education [60]. The quality of

technology and electronic device can be included among the cyberbullying characteristics. For example, anonymity (easily hiding and faking identity), lack of supervision (inconvenient for parents to supervise), physical distance (the availability of cyber perpetrators and cyber victims even in long distance), publicity (mass audience on Internet, information & communication technology), anytime and anywhere (availability of technology make cyberbullying possible at any place and any time), and no escape (cyber victim cannot be easily escape from being cyberbullied, and it is almost impossible because of the availability and quality of the technology and electronic device). The rapid development of the cyber world and ICT has affected how schooling youngsters are going to (1) develop, (2) learn, (3) socialize, and (4) interact with each other [61].

The researcher selected seven characteristics among 14 characteristics using analysis that eliminating the uncommon characteristics that used by previous authors and only chosen the important and familiar characteristics of cyberbullying. The selected characteristics as below:

- Quality of technology



No	Authors	Re	PI	An	Pu	LS	PD	QEF	TE	CBR	PS	NE	Ac	LTS	AA
1	[9]			√		√		√					√		
2	[22]		√	√	√	√	√								√
3	[23]	√	√	√											
4	[24]			√	√										
5	[25]			√	√	√	√							√	
6	[26]			√	√		√							√	
7	[27]			√	√		√		√	√	√	√			
8	[28]	√	√	√		√	√								
9	[29]			√	√										
10	[30]			√	√		√		√	√	√	√			
11	[31]		√	√	√	√									√
12	[32]			√	√		√						√		
13	[33]			√		√	√					√			
14	[34]	√		√	√										
15	[35]			√	√	√							√		
16	[36]	√		√	√		√								
17	[37]			√			√								
18	[38]			√	√							√			
19	[39]			√	√									√	
20	[40]			√		√	√						√		
21	[41]	√	√				√								
22	[42]			√	√										
23	[43]			√	√										
24	[44]	√		√	√							√			√
25	[45]			√	√		√			√		√			
26	[46]			√											
27	[47]			√											
28	[48]			√	√	√	√								
29	[49]			√	√	√	√								
30	[50]			√	√									√	
31	[51]			√	√							√			
32	[52]			√	√	√	√							√	
33	[53]	√		√	√		√								√
34	[54]			√										√	√
35	[55]			√			√		√	√	√	√			
36	[56]	√		√											
37	[57]			√									√		√
38	[58]			√	√										√
39	[59]			√											√

Hints: Re-Repetitive, PI-Power Imbalance, An-Anonymity, Pu-Publicity, LS-lack of Supervision, PD-Physical Distance, QEF-Quality of Electronic Forms, TE-Technological Expertise, CBR-Complex Bystander Roles, PS-Power Status, NE-No Escape, Ac-Accessibility, LTS-Limitless Time and Space, AA-Anytime and Anywhere.

TABLE I. Comparisons on Characteristics of Cyberbullying



- Anonymity
- Publicity
- Physical distance
- Lack of supervision
- Anytime and anywhere
- No escape

The quality of technology including electronic device, Internet and electronic media has extended traditional bullying to the cyber world which called cyberbullying. As the cyberbullying exists in cyber world, there is no way to be escape from it [62], [63]. In researcher's point of view, the quality of technology is an important element of characteristics of cyberbullying even though based on the analysis in the Table I, quality of technology only mentioned by Tokunaga [9]. As explained by the researcher in the result section, there is a highlight where a quality of technology is an important element in the characteristics of cyberbullying which differ it from the traditional bullying. The electronic forms is a medium to conduct cyberbullying, the quality of technology helps cyberbullying especially cyber perpetrators to misbehave and misuse the technology and oppressive the cyber victims. According to Slonje *et al.* [27], the technology feature is the anonymity that can occur in social media, making the perpetrators hidden their identity from the outer world. The nature of the Internet as being anonymous, accessible, and wide-reaching causes cyber perpetrators to find enjoyment in their time when cyberbullying victims, which is attributable to the nature of the Internet [4].

Blumenfeld [64] acknowledged that cyberbullying is a disparity of new patterns in acts and manners that appears along with the rapid development of technology advancement. Cyber perpetrators are manipulating the new and evolving communication technologies, such as smartphones, e-mail, and plentiful Internet-based social networks, to harass their victims. New technologies such as electronic devices, and information and communication technology (ICT) such as social networking sites have increased the speed of information shared among users in the virtual world and further intensify cyber violence. Technology and ICT are important elements in cyberbullying. Bullies nowadays act prudently by moving their bullying actions from the school grounds to the back of mobile phones or computer screens [65], [66], parallel with the passage of time and the development of the technology. According to researchers, the availability, accessibility, and usability of technology by young people are increasing, and causing the probability of creating cyberbullies or cyber perpetrators also increasing in line with it. The electronic device or gadgets such as smartphones that come with exaggerated (4G) capacity, such as portable Internet, mobilising computing, chatting, taking pictures, recording videos, calling, texting, or lis-

tening to music, are common among adolescents [67] and such a compact device which easy to be carry around and come with a sophisticated functions helps people commit cyberbullying and this characteristics already make a gap between traditional bullying and cyberbullying.

The previous authors more likely to mentioned that the differences of cyberbullying and traditional bullying is anonymity. In Table I, anonymity is the most chosen characteristic of cyberbullying by previous authors. The users of technology can choose to hide or expose their identity to the public. They also can use fake identity under this characteristic, which benefits the cyber perpetrator in conducting cyberbullying.

Icelliglu and Ozden [68] stated that cyberbullying had become the preferred style for users, especially among youth, to express their anger in anonymity. People tend to hiding when expressing their emotions such as anger or frustration in cyber world. They seem like they do not have the guts to expose their true identity, so that they chose to faking their identity by using anonymity serve by the technology to commit cyberbullying. Wang *et al.* [48] reported that results from the interview survey indicated that most participants (66.7%) demonstrated that the perpetrators can attack victims while remaining anonymous. Victims who have ever experienced anonymous cyberbullying attacks reveal that they seem helpless and powerless when being cyberbullied.

Quality of technology offered anonymity especially in electronic media such as Facebook, the user can create an account by using fake username and fake profile picture, after all fake identity. According to Franks [33], mobile phone and all kind of usable electronic device gives the cyber perpetrators the capability to acquire anonymity. Cyber perpetrators can use incorrect usernames and false e-mail addresses instead of their own names [69]. However, the anonymity does not last for a long time because cyber victims normally recognize the person behind the scene as a cyber perpetrator from witness or bystander in the incidents [70]. Cyber victims usually know who cyberbullied them even though the cyber perpetrators have concealed their identity to be known from others. There is much harm that the cyber perpetrator may have already done to the cyber victim at that stage.

As the cyberbullying is conducted using the technology or electronic forms, publicity is an element in quality of technology as it is offered by the quality of technology. Electronic media platforms such as Facebook, LinkedIn, Instagram, Twitter and others are built for us to find friends from all over the world and connecting people who are far away from us. There are millions of people that using this social networking sites. Thus, this explains why publicity is one of the characteristics of cyberbullying. The analysis in Table I showed that publicity is the most chosen characteristic after anonymity. This showed that publicity



is an important characteristic that helps to differentiate cyberbullying from traditional bullying.

Franks's study [33] stated that cyberbullying could cater to a large audience compared to traditional bullying because of the massive number of electronic media users. Nearly 60 percent of the world population are using social networking sites, the Internet, and instant messaging programs. Research conducted by Wang *et al.* [48] stated that 52.1% of the participants regularly mentioned that the public nature of cyberbullying results in the victims' public exposure. The technology helps people to access the information faster and it is very convenience for people to get the job done. However, in terms of cyberbullying, an untrue information, embarrassing pictures, humiliating video clips and others can be widely and quickly spread, leading cyber victims to experience humiliation that tends to escalate as an outcome of cyberbullying action [71], [72].

It is undeniable that by only one single status, picture, comment, broadcast message, or video that is published publicly to the Internet can lead to be shared, seen, and disseminated without restriction by a vast number of people. The functions offered by social networking sites and Internet could bring the disadvantages to the user, especially cyber victims. The publicity as a characteristic of cyberbullying can be considered as important characteristic that differentiate cyberbullying from traditional bullying. Publicity might be an advantage but it can also bring a nightmare to the user in terms of cyberbullying. A single click could change a person's life by uploading an embarrassing picture, degrading video clips, false or misleading information about someone and those acts could be seen by anyone and shared to others. Moreover, social networking sites can viral a post about someone. Viral is dangerous as it helps to promote cyberbullying by posting and sharing about someone to degrading, embarrassing, humiliating and damage someone's reputation. Cyber victim may find it hard to remove the content from the Internet and electronic media. Once it has been uploaded or sent, it is impossible to delete or erase those memories from the memory of those who once have seen it [73], [74]. The extension of exposure experienced by cyber victims from the aspect of who and how many times the audience has seen it, along with the availability and accessibility of content is practically boundless.

Physical distance is a characteristic of online communication that separates cyber perpetrators from the cyber victims. This is the characteristic that differentiate cyberbullying from traditional bullying because traditional bullying need to happen face-to-face, meanwhile cyberbullying can happen at anytime and anywhere as long as there is an Internet connection and own an electronic device or gadget. In Table I, previous authors had mentioned about the physical distance characteristic of cyberbullying. There are many of the authors agreed that physical distance is one of the characteristics of cyberbullying. The physical distance

gives an advantage to the cyber perpetrators as they can say whatever they want in cyber world without know how the cyber victims deal with the situation. The physical distance provides space for cyber criminals to have the emotion and courage to say obscene things and issues online rather than face to face [65], [73], [75], [76]. Both emotional and physical distance allows the cyber perpetrator to be unaffected by the damage they have done because they could not physically look at the cyber victim's emotive disruption [74], [77], [78].

Cyber perpetrators may think that they joking but things went too far and cyber victims think they were being cyberbullied. Actions such as posting an embarrassing picture to make fun of others is not a joke for most of people. Cyber-criminals may think that replying to messages, opinions or views is merely for the sake of joking and entertaining users on the platform [79], [80]. A cyber perpetrator may build a positive approach that it is agreeable to other cyberbullies by sending offensive and cruel messages to those who cyber perpetrator believes to have "deserved it" [77]. As a way of avoiding themselves from the feelings of suffering, the cyber perpetrator may blame the cyber victim and believe that they be worthy to be bullied [81], [82].

Lack of supervision is a characteristic chose by the researcher based on the analysis done by researcher used systematic literature review showed in Table I. Lack of supervision is an important characteristic as it increases the cyberbullying cases. People or user of Internet has a limitless usage of electronic device and the Internet. They can access the Internet almost most of the place and at anytime.

Franks [33] stated that adolescents have a tendency to have unlimited access to technology, mobile phones, and the Internet [83]. Usually, adolescents using all those channels without supervision [84], [85]. According to Badenhorst [86], usually parents have difficulty preventing and dealing with the phenomenon of cyberbullying due to the rapid development of technology and the type of behavior that is so difficult to predict. The sophistication of the technology such as electronic gadgets and electronic media make it a disadvantage for parents to supervise their child's access to the Internet. There are parents who cannot cope with the sophistication of technology because they felt it is too complicated for them. In addition, there are parents who too busy with their working life, thus they unable to supervise their child access to the technology. Parents need to understand that giving the children access to cyberspace using their smartphone exposes them to influences that come over something which parents have no power to control [87].

In addition, parents have to realize that their kids' offline lives can be extended to online and that the offline and online lives are rarely separated [88]. Users who are teenagers or youth seems do not prefer to having their



parents as their friends or followers in social networking sites. This is because they will not feel freedom to act and say anything that they want to others in the social networking sites. Adolescents seem to dislike the idea of befriending their parents on their social sites. According to Strom and Strom [89], only 18% of parents are friends with their children on social platforms, such as Facebook. There should be supervision and monitoring of an adolescent's use of the technology. However, it is challenging to supervise and watch something that is private to the adolescents, in which they are likely against the idea of involving their parents in that part of their lives [83].

From the analysis in Table I, anytime and anywhere was mentioned by previous researcher in their study as the characteristic of cyberbullying. The development of technology is rapidly time by time, the Internet can be access anytime and anywhere because most places in this world has an Internet coverage and the electronic devices is easy to own by people because they can get smartphone at an affordable price with sophisticated applications or functions of smartphone. Balakrishnan [90] stated that the availability to access the Internet in a place such as cafes, shopping malls, schools, and universities makes cyberbullying possible anytime and anywhere. Technology, the Internet, and electronic device available everywhere all around the world. The accessibility of the Internet and electronic media is easy and convenient along with the expeditious growth of the technology. Huang *et al.* [91] stated that cyberbullying could occur anytime and anywhere, which is in contrast with traditional bullying; therefore, this makes it more prevalent than traditional bullying. As the electronic media and Internet are accessible anytime and anywhere, therefore, the action of cyberbullying is also flexible with the development of technological advancement. Parents, teachers, and others may not be able to consistently supervise their youth's online activities, as the youth can access the Internet anytime and anywhere using electronic devices, such as smartphones.

This means that cyberbullying can happen whenever and wherever, as long as there is an access to the Internet [31]. Based on research conducted by Elbedour *et al.* [59], the cyber perpetrator can be online for 24 /7 and is able to reach through the walls to target the cyber victim. Similarly, Shaikh *et al.* [57] stated that cyberbullying could happen swiftly day and night in 365 days a year. Thus, this makes cyber victims cannot escape from cyberbullying.

As we know that people use technology in everyday life extensively, we use it to access information, connect with people who are far away, in a simple word, technology ease our life by helping us complete our task or job. No escape in cyberbullying is a terrifying word as cyber victim's nightmare, they cannot escape themselves from being a victim, if there is a way, they cannot escape or free themselves easily. In Table I, no escape has been mentioned by previous authors and this is the reason researcher chose

no escape as the characteristic of cyberbullying in this study.

The quality of technology makes it impossible for the cyber victims to be escape from being cyberbullied. In traditional bullying, the victims may seek for help from the parents, teachers and others. Meanwhile, in cyberbullying it is difficult for the cyber victims to find somebody to help them out or escape the situation. In terms of cyber bullying, there is no way out to free themselves from being trapped as cyber victims because almost all areas of our daily lives use technology extensively. In addition to today's teenagers tied to life must be with mobile phones or the Internet [92], [93], [94]. People have to cope with the development of technology which they can access almost everything on the internet and through electronic device and media. However, an excessive usage of the Internet may bring negative impacts toward users especially cyberbullying can bring many negative impacts such as mental health, emotional disruption and the most serious is suicide. There is possible for the cyber victims to take their own life as the last action to be taken in order to save themselves from continually being the victims of cyberbullying. In order to avoid or escape from the constant abuse that haunts them in every part of their lives, cyber victims willing to take a desperate measure and even take the path of suicide [76], [83], [88], [95].

4. DISCUSSION

This study is conducted to inform the scientific debate about cyberbullying, especially on its characteristics. The aim of this study was to identify the characteristics of cyberbullying in order to differentiate cyberbullying from traditional bullying. The concept of cyberbullying also includes the definition of traditional bullying with additional specification that it occurs by electronic forms or digital means [32], [96], [97].

Meanwhile, some argue that cyberbullying is a different problem compared to traditional bullying, requiring a separate concept of cyberbullying [98]. Buelga *et al.* [99] referred to the characteristics of the technological devices that provide cyberbullying with an even greater potential to inflict harm, as they promote acts of harassment and increase the psychological distress of the adolescent victim [9], [12], [13], [14], [15].

From 14 characteristics listed and analyses in the Table I, only seven of the characteristics chosen as the characteristics of cyberbullying in this research. The researcher did an analysis by using systematic literature review to analyses the characteristics of cyberbullying, to be precise the researcher only chose the characteristics of cyberbullying that only be mentioned or acknowledge by previous researchers. Thus, the result for this study showed that only seven characteristics that have been chosen which are quality of technology, anonymity, publicity, lack of supervision, physical distance, anytime and anywhere and no escape. Another seven characteristics which not been chosen for this research which are repetitive, power imbalance, tech-

nological expertise, complex bystander roles, power status, accessibility and limitless time and space. This is because through the analyses done by the researcher in selecting the characteristics of cyberbullying for this research, it is reported that those unchosen seven characteristics is uncommon and not always been discussed by the authors on the previous studies.

Even though, repetitive and power imbalance is common characteristics of traditional bullying that has been adopted to cyberbullying, it is difficult to defined and identify repetitive and power imbalance from the aspects of cyberbullying because there are many arguments about cyberbullying in the context of repetitive and power imbalance. Repetitive and power imbalance also known to be element of traditional bullying; thus, this research intends to distinguish cyberbullying from traditional bullying. Ansary [19] stated that many have been argued that the power imbalance either regard to physical or social power required. Moreover, the disinhibition effect affords an online users' opportunities to behave more bravery [100]. In addition, [101] stated that another contributor to the power imbalance is the fact that only a single malicious action may be repeatedly disseminated and view by multiple users.

5. CONCLUSIONS

This work aims to carry out a systematic literature review on the differences of characteristics between cyberbullying and traditional bullying. The focus of the study is to review and distinguish the characteristics of cyberbullying, in which characteristics refer to the elements of cyberbullying. Cyberbullying shows a tendency to remain a hidden experience as a result of anonymity, lack of supervision, publicity, physical distance, anytime and anywhere, and no escape. These characteristics are derived from technological features, such as electronic devices and electronic media.

The findings of this study could help researchers and scholars obtain an in-depth understanding of cyberbullying characteristics. As the characteristics of cyberbullying have been successfully identified in this study, it is possible for researchers to develop and identify the definition of cyberbullying. Additionally, the definition of cyberbullying can be developed through the findings of this study on cyberbullying characteristics. Policy-makers and legislators could create new, more detailed laws for cyberbullying as one of the prevention strategies to countering cyberbullying cases.

As the technology development become more sophisticated and advanced time by time, the characteristics of cyberbullying may be getting broader and wider. There must be an add on to the unique characteristics of cyberbullying according to the technology especially on the use of electronic medias and electronic gadgets. From this study, there is a lot of future study that can be done. The identifying of characteristics can be further in each of the electronic gadgets and electronic medias used to conduct cyberbullying. It can also to identify and investigate in-

depth on each of the characteristics of cyberbullying to give a broader knowledge about each of the characteristics. There is other seven characteristics that the researchers excluded and does not explained in this paper, it can be future research that can be done in examine the characteristics that are excluded in this paper. The contributions from the future works may help other researchers in this area in identifying in-depth on the characteristics of cyberbullying in various perspectives and elements from the technology advancement and cyber-based environment. There are many future researches can be done such as in developing the prevention strategies, identify and examine risk factors and others. It also may help the government and legislators in developing rules and laws regarding cyberbullying in more precise and effectively.

ACKNOWLEDGMENT

This research is funded by the Ministry of Higher Education Malaysia, under the Fundamental Research Grant Scheme (600-IRMI/FRGS 5/3 (225/2019)). Our sincere gratitude to the Ministry of Higher Education Malaysia and Universiti Teknologi MARA Malaysia for all the financial and administrative supports.

REFERENCES

- [1] I. Zych, R. Ortega-Ruiz, and R. Del Rey, "Scientific research on bullying and cyberbullying: Where have we been and where are we going," *Aggression and Violent Behavior*, vol. 24, pp. 188–198, 2015. [Online]. Available: <http://dx.doi.org/10.1016/j.avb.2015.05.015>
- [2] C. Piotrowski, "From workplace bullying to cyberbullying: The enigma of e-harassment in modern organizations," *Organization Development Journal*, vol. 30, no. 4, pp. 44–53, 2012.
- [3] C. Langos, "Cyberbullying: The challenge to define," *Cyberpsychology, Behavior, and Social Networking*, vol. 15, no. 6, pp. 285–289, 2012, pMID: 22703033. [Online]. Available: <https://doi.org/10.1089/cyber.2011.0588>
- [4] P. K. Smith, J. Mahdavi, M. Carvalho, S. Fisher, S. Russell, and N. Tippett, "Cyberbullying: its nature and impact in secondary school pupils," *Journal of Child Psychology and Psychiatry*, vol. 49, no. 4, pp. 376–385, apr 2008. [Online]. Available: <http://doi.wiley.com/10.1111/j.1469-7610.2007.01846.x>
- [5] I.-H. Ting, W. S. Liou, D. Liberona, S.-L. Wang, and G. M. Tarazona Bermudez, "Towards the detection of cyberbullying based on social network mining techniques," in *2017 International Conference on Behavioral, Economic, Socio-cultural Computing (BESCom)*, 2017, pp. 1–2.
- [6] OECD, *Trends Shaping Education 2016*. Paris, France: OECD, 2016.
- [7] D. M. Law, J. D. Shapka, S. Hymel, B. F. Olson, and T. Waterhouse, "The changing face of bullying: An empirical comparison between traditional and internet bullying and victimization," *Computers in Human Behavior*, vol. 28, no. 1, pp. 226–232, 2012. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S074756321100197X>



- [8] S. A. Hemphill, A. Kotevski, M. Tollit, R. Smith, T. I. Herrenkohl, J. W. Toumbourou, and R. F. Catalano, "Longitudinal predictors of cyber and traditional bullying perpetration in Australian secondary school students," *Journal of Adolescent Health*, vol. 51, no. 1, pp. 59–65, 2012. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1054139X11006525>
- [9] R. S. Tokunaga, "Following you home from school: A critical review and synthesis of research on cyberbullying victimization," *Computers in Human Behavior*, vol. 26, pp. 277–287, 2010.
- [10] S. Buelga, B. Iranzo, M. J. Cava, and E. Torralba, "Perfil psicossocial de adolescentes agresores de cyberbullying," *Revista de Psicologia Social*, vol. 30, no. 2, pp. 382–406, 2015.
- [11] S. Buelga, M. Jesus Cava, and G. Musitu, "Cyberbullying: victimization entre adolescentes a traves del telefono movil y de internet," *Psicothema*, vol. 22, no. 4, pp. 784–789, 2010.
- [12] J. Connolly, P. Hussey, and R. Connolly, "Technology-enabled bullying and adolescent resistance to report: The need to examine causal factors," *Interactive Technology and Smart Education*, vol. 11, no. 2, pp. 86–98, 2014.
- [13] C. B. Davison and C. H. Stein, "The dangers of cyberbullying," *North American Journal of Psychology*, vol. 16(3), pp. 595–606, 2014.
- [14] K. A. Fanti, A. G. Demetriou, and V. V. Hawa, "A longitudinal study of cyberbullying: Examining risk and protective factors," *European Journal of Developmental Psychology*, vol. 9, no. 2, pp. 168–181, 2012.
- [15] R. Navarro, S. Yubero, E. Larrañaga, and V. Martínez, "Children's cyberbullying victimization: Associations with social anxiety and social competence in a Spanish sample.," *Child indicators research*, vol. 5(2), pp. 281–295, 2014.
- [16] D. Olweus, "School bullying: Development and some important challenges," *Annual Review of Clinical Psychology*, vol. 9, no. 1, pp. 751–780, 2013, PMID: 23297789. [Online]. Available: <https://doi.org/10.1146/annurev-clinpsy-050212-185516>
- [17] E. Englander, E. Donnerstein, R. Kowalski, C. A. Lin, and K. Parti, "Defining Cyberbullying," *Pediatrics*, vol. 140, no. Supplement (2), pp. S148–S151, 2017. [Online]. Available: <https://doi.org/10.1542/peds.2016-1758U>
- [18] D. Olweus, *Cyberbullying: A critical overview.* In *aggression and Violence: A social psychological perspective*, edited by B. J. Bushman. New York, NY: Routledge, 2017.
- [19] N. S. Ansary, "Cyberbullying: Concepts, theories, and correlates informing evidence-based best practices for prevention," *Aggression and Violent Behavior*, vol. 50, p. 101343, 2020. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1359178918302878>
- [20] D. Moher, L. Shamseer, M. Clarke, D. Ghersi, A. Liberati, M. Petticrew, P. Shekelle, and L. A. Stewart, "Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement," *Systematic reviews*, vol. 4(1), pp. 1–9, 2015.
- [21] M. A. Carter, "Protecting oneself from cyber bullying on social media sites – a study of undergraduate students," *Procedia - Social and Behavioral Sciences*, vol. 93, pp. 1229–1235, 2013, 3rd World Conference on Learning, Teaching and Educational Leadership. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1877042813034654>
- [22] S. P. Kiriakidis and A. Kavoura, "Cyberbullying: A review of the literature on harassment through the internet and other electronic means," *Family and Community Health*, vol. 33, no. 2, pp. 82–93, 2010. [Online]. Available: <http://www.jstor.org/stable/44954176>
- [23] N. Levy, S. C. Cortesi, U. Gasser, E. Crowley, M. Beaton, J. A. Casey, and C. Nolan, "Bullying in a Networked Era: A Literature Review," *SSRN Electronic Journal*, vol. 7641, 2012.
- [24] S. K. Schneider, L. O'donnell, A. Stueve, and R. W. Coulter, "Cyberbullying, school bullying, and psychological distress: A regional census of high school students," *American Journal of Public Health*, vol. 102, no. 1, pp. 171–177, 2012.
- [25] F. Sticca and S. Perren, "Is Cyberbullying Worse than Traditional Bullying? Examining the Differential Roles of Medium, Publicity, and Anonymity for the Perceived Severity of Bullying," *Journal of Youth and Adolescence*, vol. 42, no. 5, pp. 739–750, 2013.
- [26] F. Sticca, S. Ruggieri, F. Alsaker, and S. Perren, "Longitudinal risk factors for cyberbullying in adolescence," *Journal of Community and Applied Social Psychology*, vol. 23, no. 1, pp. 52–67, 2013.
- [27] R. Slonje, P. K. Smith, and A. Frisén, "The nature of cyberbullying, and strategies for prevention," *Computers in Human Behavior*, vol. 29, no. 1, pp. 26–32, 2013, including Special Section Youth, Internet, and Wellbeing. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0747563212002154>
- [28] W. Cassidy, C. Faucher, and M. Jackson, "Cyberbullying among youth: A comprehensive review of current international research and its implications and application to policy and practice," *School Psychology International*, vol. 34, no. 6, pp. 575–612, 2013.
- [29] J. A. Casas, R. Del Rey, and R. Ortega-Ruiz, "Bullying and cyberbullying: Convergent and divergent predictor variables," *Computers in Human Behavior*, vol. 29, no. 3, pp. 580–587, 2013. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0747563212003202>
- [30] K. Stone, "Looking at bullying and cyberbullying: mapping approaches and knowledge," *Scotland's Commissioner for Children and Young People*, 2014.
- [31] H. Jang, J. Song, and R. Kim, "Does the offline bullying-victimization influence cyberbullying behavior among youths? application of general strain theory," *Computers in Human Behavior*, vol. 31, pp. 85–93, 2014. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0747563213003579>
- [32] R. Kowalski, G. Giumetti, A. Schroeder, and M. Lattanner, "Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth," *Psychological bulletin*, vol. 140(4), p. 1073, 2014.
- [33] T. S. Franks, *The Experiences of Adolescents regarding Cyberbullying*. Doctoral dissertation, University of Pretoria, 2015.
- [34] T. E. Waasdorp and C. P. Bradshaw, "The overlap between cyberbullying and traditional bullying," *Journal of Adolescent Health*, vol. 56, no. 5, pp. 483–488, 2015. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1054139X14007587>



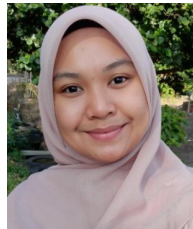
- [35] V. Della Cioppa, A. O'Neil, and W. Craig, "Learning from traditional bullying interventions: A review of research on cyberbullying and best practice," *Aggression and Violent Behavior*, vol. 23, pp. 61–68, 2015, bullying, Cyberbullying, and Youth Violence: Facts, Prevention, and Intervention. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1359178915000713>
- [36] R. Navarro and C. Serna, "Spanish youth perceptions about cyberbullying: Qualitative research into understanding cyberbullying and the role that parents play in its solution," *In Cyberbullying across the Globe*, Springer, Cham, pp. 193–218, 2016.
- [37] A. H. A. Ghazali, S. Z. Omar, A. Ahmad, A. A. Samah, H. Abdullah, S. A. Ramli, and H. A. M. Shaffril, "Potential Personality Traits that Explain Cyberbullying among Youth in Malaysia," *International Journal of Academic Research in Business and Social Sciences*, vol. 6, no. 12, pp. 741–749, 2016.
- [38] L. Uusitalo-Malmivaara and J. E. Lehto, "Happiness and depression in the traditionally bullied and cyberbullied 12-year-old," *Open Review of Educational Research*, vol. 3, no. 1, pp. 35–51, 2016. [Online]. Available: <https://doi.org/10.1080/23265507.2016.1155168>
- [39] E. M. Selkie, J. L. Fales, and M. A. Moreno, "Cyberbullying prevalence among us middle and high school-aged adolescents: A systematic review and quality assessment," *Journal of Adolescent Health*, vol. 58, no. 2, pp. 125–133, 2016. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1054139X15003821>
- [40] R. Forssell, "Exploring cyberbullying and face-to-face bullying in working life – prevalence, targets and expressions," *Computers in Human Behavior*, vol. 58, pp. 454–460, 2016. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0747563216300036>
- [41] N. Brody and A. L. Vangelisti, "Cyberbullying: Topics, strategies, and sex differences," *Computers in Human Behavior*, vol. 75, pp. 739–748, 2017. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0747563217303916>
- [42] L. Lazuras, V. Barkoukis, and H. Tsoarbatzoudis, "Face-to-face bullying and cyberbullying in adolescents: Trans-contextual effects and role overlap," *Technology in Society*, vol. 48, pp. 97–101, 2017. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0160791X16301336>
- [43] S. Resett and M. Gamez-Guadix, "Traditional bullying and cyberbullying: Differences in emotional problems, and personality are cyberbullies more machiavellians?" *Journal of Adolescence*, vol. 61, pp. 113–116, 2017. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0140197117301549>
- [44] T. V. Cong, N. P. H. Ngoc, B. Weiss, N. V. Luot, and N. B. Dat, "Definition and Characteristics of "Cyberbullying" among Vietnamese Students," *VNU Journal of Science: Education Research*, vol. 34, no. 4, pp. 1–10, 2018.
- [45] H. Gaffney and D. Farrington, "Cyberbullying in the united kingdom and ireland," *In International Perspectives on Cyberbullying*, Palgrave Macmillan, Cham., pp. 101–143, 2018.
- [46] C. Jenaro, N. Flores, V. Vega, M. Cruz, M. C. Pérez, and V. A. Torres, "Cyberbullying among adults with intellectual disabilities: Some preliminary data," *Research in Developmental Disabilities*, vol. 72, pp. 265–274, 2018. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S089142221730313X>
- [47] M. A. Moreno, N. Suthamjarriya, and E. Selkie, "Stakeholder perceptions of cyberbullying cases: Application of the uniform definition of bullying," *Journal of Adolescent Health*, vol. 62, no. 4, pp. 444–449, 2018. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1054139X1730856X>
- [48] C.-W. Wang, P. M. Musumari, T. Techasrivichien, S. P. Suguimoto, C.-C. Chan, M. Ono-Kihara, M. Kihara, and T. Nakayama, "'i felt angry, but i couldn't do anything about it': a qualitative study of cyberbullying among taiwanese high school students," *BMC Public Health*, vol. 19(1), pp. 1–11, 2019.
- [49] D. Graf, T. Yanagida, and C. Spiel, "Sensation seeking's differential role in face-to-face and cyberbullying: Taking perceived contextual properties into account," *Frontiers in Psychology*, vol. 10, no. JULY, 2019.
- [50] P. T. L. Chi, V. T. H. Lan, N. H. Ngan, and N. T. Linh, "Online time, experience of cyber bullying and practices to cope with it among high school students in Hanoi," *Health Psychology Open*, vol. 7, no. 1, 2020.
- [51] C.-W. Wang, P. M. Musumari, T. Techasrivichien, S. P. Suguimoto, Y. Tateyama, C.-C. Chan, M. Ono-Kihara, M. Kihara, and T. Nakayama, "Overlap of traditional bullying and cyberbullying and correlates of bullying among taiwanese adolescents: a cross-sectional study," *BMC Public Health*, vol. 19(1), pp. 1–14, 2019.
- [52] L. Hellström and A. Lundberg, "Understanding bullying from young people's perspectives: An exploratory study," *Educational Research*, vol. 62, no. 4, pp. 414–433, 2020. [Online]. Available: <https://doi.org/10.1080/00131881.2020.1821388>
- [53] S. Skilbred-Fjeld, S. E. Reme, and S. Mossige, "Cyberbullying involvement and mental health problems among late adolescents," *Cyberpsychology*, vol. 14, no. 1, 2020.
- [54] W. Jun, "A Study on the Cause Analysis of Cyberbullying in Korean Adolescents," *International Journal of Environmental Research and Public Health*, 2020.
- [55] N. N. Chan, P. Ahrumugam, H. Scheithauer, A. Schultze-Krumbholz, and P. Ooi, "A hermeneutic phenomenological study of students' and school counsellors' "lived experiences" of cyberbullying and bullying," *Computers & Education*, vol. 146, p. 103755, 2020. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0360131519303082>
- [56] A. Amarah, "Cyberbullying Campaign Review for New Implementation and Prevention," *International Journal of Advanced Trends in Computer Science and Engineering*, vol. 9, no. 1.3, pp. 395–401, 2020.
- [57] F. B. Shaikh, M. Rehman, and A. Amin, "Cyberbullying: A Systematic Literature Review to Identify the Factors Impelling University Students towards Cyberbullying," *IEEE Access*, vol. 8, pp. 148 031–148 051, 2020.
- [58] S. Buelga, J. Postigo, B. Martínez-Ferrer, M. J. Cava, and J. Ortega-Barón, "Cyberbullying among adolescents: Psychometric properties of the CYB-AGS cyber-aggressor scale," *International Journal of Environmental Research and Public Health*, vol. 17, no. 9, 2020.
- [59] S. Elbedour, S. Alqahtani, I. El Sheikh Rihan, J. A. Bawalsah,



- B. Booker-Ammah, and J. F. Turner, "Cyberbullying: Roles of school psychologists and school counselors in addressing a pervasive social justice issue," *Children and Youth Services Review*, vol. 109, p. 104720, 2020. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0190740919311478>
- [60] B. Keeley and C. Little, *State of the Worlds Children 2017 - Children in a Digital World*. UNICEF. 3 United Nations Plaza, New York, NY 10017, 2017.
- [61] A. Paniagua and D. Istance, *Teachers as Designers of Learning Environments: The Importance of Innovative Pedagogies*. Educational Research and Innovation. OECD Publishing. 2, rue Andre Pascal, F-75775 Paris Cedex 16, France, 2018.
- [62] G. S. O'Keeffe, K. Clarke-Pearson, D. A. Mulligan, T. R. Altmann, A. Brown, D. A. Christakis, H. L. Falik, D. L. Hill, M. J. Hogan, A. E. Levine, and K. G. Nelson, "Clinical report - The impact of social media on children, adolescents, and families," *Pediatrics*, vol. 127, no. 4, pp. 800–804, 2011.
- [63] B. C. Trolley and C. Hanel, *Cyber Kids, Cyber Bullying, Cyber Balance*. California: Corwin, 2018.
- [64] W. J. Blumenfeld, "The nature of social communication technologies and cyberbullying filtered cues and disinhibited actions," *The Nature of Technology: Implications for Learning and Teaching*, pp. 269–290, 2013.
- [65] J. W. Patchin and S. Hinduja, "Cyberbullying and self-esteem*," *Journal of School Health*, vol. 80, no. 12, pp. 614–621, 2010. [Online]. Available: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1746-1561.2010.00548.x>
- [66] Y. Sarina, H. M. Salleh, and I. Adamkolo, *Cyberbullying Among Malaysian Children Based on Research Evidence*. In *Advanced Methodologies and Technologies in System Security, Information Privacy, and Forensics*. IGI global, 01 2019, pp. 115–137.
- [67] K. Church and R. De Oliveira, "What's up with WhatsApp? Comparing mobile instant messaging behaviors with traditional SMS," *MobileHCI 2013 - Proceedings of the 15th International Conference on Human-Computer Interaction with Mobile Devices and Services*, pp. 352–361, 2013.
- [68] S. İçellioglu and M. S. Özden, "Cyberbullying: A new kind of peer bullying through online technology and its relationship with aggression and social anxiety," *Procedia - Social and Behavioral Sciences*, vol. 116, pp. 4241–4245, 2014, 5th World Conference on Educational Sciences. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1877042814009410>
- [69] M. Cart, *A Literature of Risk*. American Libraries, 2018, vol. 41(5).
- [70] J. W. Patchin and S. Hinduja, *Cyberbullying prevention and response: Expert perspectives*. Routledge, 2012, vol. 12.
- [71] S. Bauman and M. L. Newman, "Testing assumptions about cyberbullying: Perceived distress associated with acts of conventional and cyber bullying," *Psychology of Violence*, vol. 3, no. 1, pp. 27–38, 2013.
- [72] P. L. Lindfors, K.-H. Riittakerettu, and H. R. Arja, "Cyberbullying among Finnish adolescents – a population-based study," *BMC Public Health*, vol. 12(1), pp. 1–5, 2012.
- [73] C. Adams, *Cyberbullying: How to make it stop*. Instructor, 2010, vol. 120(2).
- [74] K. Naruskov, P. Luik, A. Nocentini, and E. Menesini, "Estonian students' perception and definition of cyberbullying," *Trames*, vol. 16, no. 4, pp. 323–343, 2012.
- [75] R. Ortega, P. Elipe, J. A. Mora-Merchán, J. Calmaestra, and E. Vega, "The emotional impact on victims of traditional bullying and cyberbullying: A study of Spanish adolescents," *Journal of Psychology*, vol. 217, no. 4, pp. 197–204, 2009.
- [76] V. Sharbaro and T. M. E. Smith, "An Exploratory Study of Bullying And Cyberbullying Behaviors Among Economically/Educationally Disadvantaged Middle School Students," *American Journal of Health Studies*, vol. 26(3), 2011.
- [77] C. P. Barlett and D. A. Gentile, "Attacking others online: The formation of cyberbullying in late adolescence," *Psychology of Popular Media Culture*, vol. 1, no. 2, pp. 123–135, 2012.
- [78] R. Thornberg, R. Rosenqvist, and P. Johansson, "Older Teenagers' Explanations of Bullying," *Child and Youth Care Forum*, vol. 41, no. 4, pp. 327–342, 2012.
- [79] G. Steffgen, A. König, J. Pfetsch, and A. Melzer, "Are cyberbullies less empathic? Adolescents' cyberbullying behavior and empathic responsiveness," *Cyberpsychology, Behavior, and Social Networking*, vol. 14, no. 11, pp. 643–648, 2011.
- [80] K. Twyman, C. Saylor, L. A. Taylor, and C. Comeaux, "Comparing children and adolescents engaged in cyberbullying to matched peers," *Cyberpsychology, Behavior, and Social Networking*, vol. 13, no. 2, pp. 195–199, 2010, PMID: 20528278. [Online]. Available: <https://doi.org/10.1089/cyber.2009.0137>
- [81] R. Thornberg, "Linköping University Post Print Schoolchildren 's social representations on bullying causes," *Psychology in the Schools*, vol. 4, no. 47, pp. 311–327, 2010.
- [82] R. Thornberg and S. Knutsen, "Teenagers' Explanations of Bullying," *Child and Youth Care Forum*, vol. 40, no. 3, pp. 177–192, 2011.
- [83] S. Stauffer, M. A. Heath, S. M. Coyne, and S. Ferrin, "High school teachers' perceptions of cyberbullying prevention and intervention strategies," *Psychology in the Schools*, vol. 49, no. 4, pp. 352–367, 2012.
- [84] M. Wong-Lo and L. M. Bullock, "Digital aggression: Cyberworld meets school bullies," *Preventing School Failure: Alternative Education for Children and Youth*, vol. 55, no. 2, pp. 64–70, 2011. [Online]. Available: <https://doi.org/10.1080/1045988X.2011.539429>
- [85] S. Baer, K. Saran, D. A. Green, and I. Hong, "Electronic media Use and addiction among youth in psychiatric clinic versus school populations," *Canadian Journal of Psychiatry*, vol. 57, no. 12, pp. 728–735, 2012.
- [86] C. Badenhurst, "Legal responses to cyber bullying and sexting in South Africa," *Centre for Justice and Crime Prevention*, vol. August, no. 10, pp. 1 – 20, 2011. [Online]. Available: http://www.childlinesa.org.za/index2.php?option=com_docman&task=doc_view&gid=221&Itemid=64
- [87] A. Ndlovu, *Cyber safety at schools*. The Times, 17 February

2014, vol. 5.

- [88] D. E. Agosto, A. Forte, and R. Magee, *Cyberbullying and Teens. What YA Librarians Can Do to Help*. Young Adult Library Services, 2012, vol. 10(2):38-43.
- [89] P. Strom and R. Strom, "Growing Up with Social Networks and Online Communities," *The Education Digest*, vol. 78, no. 1, pp. 48-51, 2012.
- [90] V. Balakrishnan, "Unraveling the underlying factors sculpting cyberbullying behaviours among Malaysian young adults," *Computers in Human Behavior*, vol. 75, pp. 194-205, 2017. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0747563217302315>
- [91] Q. H. Huang, D. Inkpen, J. Zhang, and D. V. Bruwaene, "Cyberbullying intervention based on convolutional neural networks," *In Proceedings of the First Workshop on Trolling, Aggression and Cyberbullying (TRAC-2018)*, pp. 42-51, 2018.
- [92] J. Juvonen and E. F. Gross, "Extending the school grounds?—bullying experiences in cyberspace," *Journal of School Health*, vol. 78, no. 9, pp. 496-505, 2008. [Online]. Available: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1746-1561.2008.00335.x>
- [93] R. Slonje and P. K. Smith, "Cyberbullying: Another main type of bullying?: Personality and Social Sciences," *Scandinavian Journal of Psychology*, vol. 49, no. 2, pp. 147-154, 2008.
- [94] K. M. Thomas and C. D. McGee, "The only thing we have to fear is... 120 characters," *TechTrends*, vol. 56(1), pp. 19-33, 2012.
- [95] K. Slovak and J. B. Singer, "School social workers' perceptions of cyberbullying," *Children and Schools*, vol. 33, no. 1, pp. 5-16, 2011.
- [96] S. Berne, A. Frisé, and J. Berne, "Cyberbullying in Childhood and Adolescence: Assessment, Negative Consequences and Prevention Strategies," *In: Lunneblad J. (eds) Policing Schools: School Violence and the Juridification of Youth. Young People and Learning Processes in School and Everyday Life*, Springer, Cham, vol. 2, pp. 19-33, 2019.
- [97] M. Campbell and S. Bauman, "1 - cyberbullying: Definition, consequences, prevalence," in *Reducing Cyberbullying in Schools*, M. Campbell and S. Bauman, Eds. Academic Press, 2018, pp. 3-16. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/B9780128114230000018>
- [98] D. Cross, L. Lester, and A. Barnes, "A longitudinal study of the social and emotional predictors and consequences of cyber and traditional bullying victimisation," *International Journal of Public Health*, vol. 60, no. 2, pp. 207-217, 2015.
- [99] S. Buelga, M. J. Cava, G. Musitu, and E. Torralba, "Cyberbullying aggressors among Spanish secondary education students: an exploratory study," *Interactive Technology and Smart Education*, vol. 100:15, 2018. [Online]. Available: doi:10.1108/ITSE.08-2014-0025
- [100] J. Suler, "The online disinhibition effect," *Cyberpsychology and Behavior*, vol. 7, no. 3, pp. 321-326, 2004.
- [101] J. W. Patchin and S. Hinduja, "Measuring cyberbullying: Implications for research," *Aggression and Violent Behavior*, vol. 23, pp. 69-74, 2015, bullying, Cyberbullying, and Youth Violence: Facts, Prevention, and Intervention. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1359178915000750>



Nur Amalina Yusof Nur Amalina Binti Yusof, received a Bachelor of Business Administration (Hons) Marketing in 2018 from Universiti Teknologi MARA (UiTM) Branch Segamat, Johor. She is currently pursuing her Master in Social Science at UiTM Shah Alam, Selangor.



Muruga Chinniah Muruga Chinniah is a Senior Lecturer at the Department of Management & Marketing, Faculty of Business Management Universiti Teknologi MARA Johor, Segamat Campus. He holds a Master degree in Management Business Administration, specialising in the Management and IT in Business. A key focus of his research is the management and green supply chain management. Further research interests lie in

the area of cyberbullying and IT management. He has published in numerous local and international journals of social science and Journal of Cyberpsychology, Behavior, and Social Networking.



Akmal Aini Othman Akmal Aini Othman, is an Associate Professor at the Department of Management & Marketing, Faculty of Business Management Universiti Teknologi MARA Johor, Segamat Campus. She holds a doctorate degree in Business Management, specialising in the Construction Supply Chain (Procurement Process). Her favour towards diverse areas of research is reflected through her published works in several local

and international journals. Her work has been published in Engineering, Construction and Architectural Management, European Journal of Training and Development, International Journal of Supply Chain Management. Her current research interests focus on Cyberbullying and e-Wallet.



Shamala Palaniappan Shamala Palaniappan, Senior Lecturer at the Computer Science Senior Lecturer in the Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA Johor, Segamat Campus. She holds a PhD in Information Security from the Universiti Teknikal Malaysia Melaka (UTeM), Malaysia. Her field of interests included Information Security & Cyber Security, Information Assurance &

Security Management, Information Security Management System (ISMS) and Digital Forensic Analysis & Validation.



Ali Hussein Saleh Zolait Ali Hussein Saleh Zolait is the Assistant Professor of Management Information Systems (MIS) at the College of Information Technology – Department of Information System – University of Bahrain. Dr. Zolait is the elected IEEE Bahrain Section –Chairman 2021-2022. Dr. Zolait published more than 50 articles on information security, internet banking, mobile application, supply chain integration, information systems performance in the organizations, Web maturity evaluation, information systems, performance analysis, instructional technologies, and e-commerce applications. He is the Editor-in-Chief of the International Journal of Technology Diffusion (IJTD). He is the Stoops Distinguished Assistant Professor of Management Information Systems, and his teaching interest includes systems analysis and Design, Cybersecurity, E-commerce, and Database Management Systems. He worked for several Universities before he joined the University of Bahrain in 2010. He is supervising several master's theses in the area of cybersecurity and information systems.