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A Review of Adult Cyberbullying Research from Multi-disciplinary Archives and Directions for Future Studies

Full research paper

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Abstract

Cyberbullying is a major societal issue that is regrettably on the rise. Previous research on cyberbullying has almost entirely focused on the prevalence of cyberbullying among children or adolescents, and it is unknown how prevalent it is in the general population. This study reviews and synthesizes empirical studies related to adult cyberbullying to learn what we know, how well we know, and what we need to know about cyberbullying among adults. The research has explored that the current literature is fragmented and lacks an overarching framework from a socio-technical perspective to systematically guide future cyberbullying research. Moreover, researchers and practitioners continue to question a universal definition of cyberbullying co-developed with the changes in technology. Overall, the paper provides a more complete picture of cyberbullying continuum among adults, while identifying many opportunities for future researchers.

Keywords: Cyberbullying, Adults, Socio-Technical.

1 Introduction

Cyberbullying is a worldwide phenomenon, and it has emerged as a new form of bullying which occurs through the Internet via cell phones, computer devices or handheld devices and can be anonymous and can occur 24 hours a day (Feinberg and Robey 2008). An increasing number of people are exposed to cyberbullying on multiple platforms several times per day as a result of the growing popularity of social media and the rapid evolution of ICT (Sedera and Lokuge 2020a). According to the eleven different studies conducted in the United States, the proliferation of cyberbullying has doubled with 18% in 2007 and 36% in 2019 (López-Vizcaino et al. 2021). However, most of the victims do not recognise their experiences as cyberbullying and about 90% of the victims did not tell their experiences to parents or other trusted adults to get support (Kowalski and Limber 2007) and this may pose significant intimidation for their lives. This can lead to psychological and physical issues such as depression, anxiety (Kowalski et al. 2014; Sedera and Lokuge 2020b), increased psychosomatic symptoms and intrusive thoughts of self-harming and suicide ideation (Kowalski et al. 2014; Sedera et al. 2017). Further cyberbullying can occur anytime at any place in contrast with traditional bullying therefore this has more prevalence than traditional bullying (Huang et al. 2018a).

Although cyberbullying occurs in all age groups, the majority of cyberbullying research studies have focused on adolescents or children (Jenaro et al. 2018; Orel et al. 2015), leaving it unclear how prevalent it is in the general adult population (Wang et al. 2019). Hence, research is unclear on how cyberbullying could be conceptualised and prevented within the wider adult population (Wang et al. 2019). Similarly, Jenaro et al. (2018) shown that there is also a lack of well-controlled and experimental intervention studies to minimize or prevent cyberbullying amongst the adult population. With the proliferation of smartphones, the high percentage of adults using social media, Internet and workplace systems, and stressful life events, the incidence of cyberbullying among the adult population is likely to have risen. Therefore, it is essential to explore the extent of cyberbullying victimisation and perpetration among adults (Hemphill and Heerde 2014). The increasing amount of cyberbullying occurring among the adult population, which is deemed almost as severe as that of younger populations (Jenaro et al. 2018), this serves as the context for this study.

Another larger question raised by the recent growth of cyberbullying is, are we really understanding the fundamental differences between traditional bullying and cyberbullying phenomenon? As suggested by many researchers (Englander et al. 2017; Kowalski et al. 2019; Vranjes et al. 2017), the cyberbullying phenomenon does hold a unique set of technology-related characteristics that should be of particular interest to information systems (IS) scholars. However, the phenomenon is mostly investigated by scholars from other disciplines such as psychology, social sciences, and criminology.

This study reviews and synthesizes empirical studies related to adult cyberbullying to learn what we know, how well we know, and what we need to know about cyberbullying among adults. In the current review, first, we explored the overall status of cyberbullying research on adults to get a clear overview of cyberbullying research among adults. Then we provide definitions of cyberbullying, cyberbullying prevalence and consequences of cyberbullying followed by an examination of wide-ranging socio-technical factors, which influence cyberbullying among adults. In doing so, the gaps in the contemporary literature are displayed, highlighting fruitful areas for future research investigations.

2 Paper Selection

This literature review covers cyberbullying research published from 2010-2020. Since no clear criteria are governing the choice of outlets journals were selected using a multi-step approach. First, to survey the literature, major IS journals, social science journals and psychology journals, in which cyberbullying research often appears, were selected as the primary journals for the review, because quality cyberbullying research broadly falls into the psychology, social sciences and information systems disciplines. There are also some government and non-government research that could also be published outside these journals; therefore, some manual keyword search also is done to extract those papers. This review focuses on key terms related to the 'adult', 'cyberbullying', 'cyber-harassment', 'internet harassment', 'internet bullying', 'online bullying', 'electronic bullying', 'cyber-stalking', 'online aggression', 'internet aggression' and 'perpetration' in different combinations. To ensure the relevancy of the articles for the review only publications containing key terms or synonyms were retrieved.

The search was done in two iterations. Firstly, search iteration was done through the EBSCO interface and found 119 Articles. Then we limited databases to Academic Search Complete (28), PsycINFO (22), Psychology and Behavioural Sciences Collection (6), Science Direct (2), CINAHL Complete (19) and MEDLINE Complete (1) and research published from 2010-2020 to search relevant articles. This

resulted in 78 articles which were then filtered for relevance by analysing the titles and abstracts and skimming the content. The papers that did not match with the proposed definition were then excluded along with papers which despite having keywords appearing in the abstracts or subject heading did not investigate cyberbullying perpetration among adults. The papers obtained from conference proceedings, book chapters and publications not in English were excluded. After analysed and duplications being removed meant that 21 articles were taken into the analysis from the first iteration stage. The next stage was to search through Google Scholar to find any missing articles, an additional 12 articles from the second iteration were found. To be thorough, this study reviewed the reference lists of the selected papers for additional papers to reduce the potential influence of publication bias. We found an additional 8 articles from reference lists making a total of 41 relevant articles to be analysed.

3 Discussion

3.1 Overall Status of Cyberbullying Research on Adults

A summary of the literature can provide useful insights into the overall status of the reviewed studies, as well as quality assurance, transparency, and the reduction of selection bias (Gaffar et al. 2015). The analysis of the selected studies is presented here for this purpose. As an integrative overview, this section addressed five important aspects related to the included studies: publication trends, research methodology, use of theories to explain cyberbullying among adults and the journals publishing articles.

As can be seen from figure 1, the topic of cyberbullying among adults came to scholars' attention in 2009 and there is an increasing publication trend from 2016. However, we can see that the topic is receiving great attention from 2017 onwards. The growing trend suggesting that cyberbullying is a promising research topic specifically among adults, which is increasingly attracting the interest of academics. Figure 1 below presents the details related to the publication timeline.

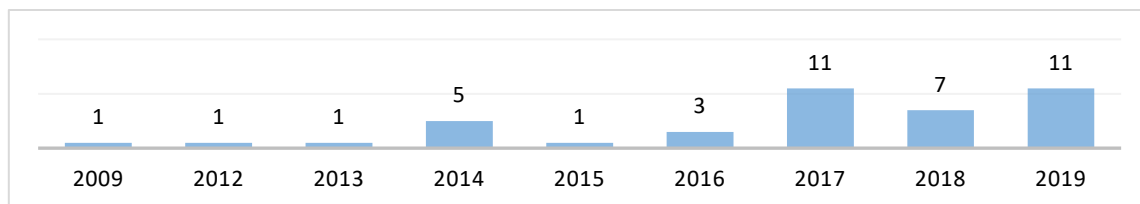


Figure 1: Publication timeline of the literature

Next, we analysed the research methodologies related to the included studies and shown in figure 2. Both qualitative and quantitatively studies were conducted on the topic. The quantitative survey methods dominate cyberbullying research among adults, adopted by over 75% (n=41) of the included studies. These quantitative methods including both traditional and online surveys as well as longitudinal studies. Only 24% of the included studies have used qualitative methodologies such as literature review and meta-analysis. Consistent with previous researchers (Jenaro et al. 2018) we can see that there is a lack of well-controlled and experimental studies to minimise or prevent cyberbullying especially among adult populations. Although there are a variety of experimental methods for measuring cyberbullying in experimental settings, these methods are significantly underutilised, and it is unclear why.

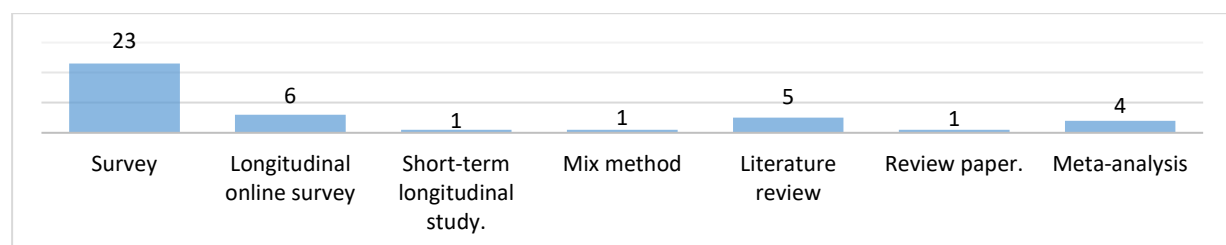


Figure 2: Research Methodologies

The next part of this section discusses the theories and theoretical frameworks used by the included studies (from 2010-2020) and shown in table 1. Of the 41 articles reviewed, more than half of the studies provided empirical evidence, however, most of those that did were atheoretical or lacks a solid theoretical foundation. Most of these researchers investigated simple correlations between

cyberbullying perpetration and the risk and protective factors (Guo 2016; Kowalski et al. 2019; Lee et al. 2018).

Study	Theory used	Study	Theory used
(Kowalski et al. 2019)	Atheoretical	(Zsila et al. 2019)	Atheoretical
(Chen et al. 2017)	Social cognitive theory and media effects model	(Lee and Wu 2018)	The Attitude-Social Influence-Self-Efficacy Model. (ASE)
(Barlett and Coyne 2014)	Atheoretical	(Martinez-Pecino and Durán 2019)	Hypothesis model using Ambivalent sexism theory and other factors.
(Guo 2016)	Atheoretical	(Kircaburun et al. 2019)	Hypothesis model using Problem Behavior Theory, Self-control, Depression and Self-Esteem
(Hemphill and Heerde 2014)	Atheoretical	(Tanrikulu and Erdur-Baker 2019)	Uses and Gratifications Theory (UGT)
(Barlett et al. 2017)	Barlett and Gentile cyberbullying model and self-efficacy theory.	(Savage and Tokunaga 2017)	General aggression theory
(Kowalski et al. 2017)	Job demands-resources theory.	(Barlett et al. 2019c)	Barlett Gentile Cyberbullying Model
(Lund and Ross 2017)	Atheoretical	(Barlett et al. 2019a)	BGCM and past longitudinal work of the authors.
(Kowalski et al. 2014)	General aggression model	(Barlett et al. 2016)	Barlett and Gentile Cyberbullying model and postulates of GLM.
(Lianos and McGrath 2018)	General Theory of Crime and General Strain Theory	(Barlett and Chamberlin 2017)	Barlett Gentile Cyberbullying Model (BGCM)
(Ojanen et al. 2015)	Atheoretical	(Ménard and Pincus 2012)	The cycle of violence theory, Attachment theory; and Pathological narcissism theory.
(Lee et al. 2018)	Atheoretical	(Jenaro et al. 2018)	Atheoretical
(Brack and Caltabiano 2014)	Atheoretical	(Lowry et al. 2019)	Social learning theory (SLT) and Self-control theory (SCT)
(Yang et al. 2018)	Hypothesis model for the study.	(Privitera and Campbell 2009)	Atheoretical
(Lee 2017)	Atheoretical	(Doane et al. 2014)	Theory of Reasoned Action
(Wong et al. 2018)	I3 theory	(Chan et al. 2019)	Crime Opportunity Theory and the Affordance perspective
(Barlett and Chamberlin 2017)	Barlett Gentile Cyberbullying Model (BGCM).	(Barlett et al. 2019b)	The General Aggression Model (GAM)
(Barlett and Kowalewski 2019)	Barlett Gentile Cyberbullying Model (BGCM).	(Watkins et al. 2018)	Atheoretical
(Barlett 2017)	Barlett Gentile Cyberbullying Model (BGCM).	(Vranjes et al. 2017)	Hypothesis model using Affective Events Theory
(Balakrishnan 2017)	Hypothesis model using Socio-cultural, Psychology and Technology factors	(Wright 2013)	Atheoretical
(Lowry et al. 2016)	Social Structure and Social Learning (SSSL) Model of Crime & Deviance.		

Table 1. Theories used in relation to adults cyberbullying

Nevertheless, some researchers applied broader aggression and psychological theories such as The General Aggression Model (Kowalski et al. 2014; Savage and Tokunaga 2017), Theory of Planned Behaviour (Nagahawatta et al. 2021), Theory of Reasoned Action (Doane et al. 2014), General Strain Theory (Lianos and McGrath 2018), General theory of crime (Lianos and McGrath 2018; Lowry et al. 2019) and Barlett and Gentile Cyberbullying Model (BGCM) (Barlett and Chamberlin 2017; Barlett and Kowalewski 2019) more often to measures cyberbullying related attitudes, perceptions and behaviours to test postulates of cyberbullying perpetration. However, the majority of studies have mainly looked at either social factors (majority), psychological factors (some), and technical factors (rarely), or at most two from this subset (mostly social and psychological) (Lowry et al. 2019). Also, most of these theories have no unique factors applicable to the online world (technology-related factors) and have no illustrative power over traditional bullying. These theoretical postulates cannot effectively differentiate cyberbullying from traditional bullying (Barlett and Chamberlin 2017).

Yet, to our best knowledge, there are only a few comprehensive theories, which have the ability to predict cyberbullying perpetration among adults. For example, Chan et al. (2019) tried to explain cyberbullying by developing a meta-framework using 'Crime Opportunity Theory' and the 'affordance perspective' to explain bullying in social networking sites (SNS). However, their research is focused more on social networking sites. Some other notable studies were Lowry et al. (2019)'s an integrative theory using 'Social Learning Theory (SLT)' and 'General Theory of Crime', as well as Lianos and McGrath (2018)'s

application of 'General Theory of Crime' and 'General Strain Theory' to explain cyberbullying. Although these researchers have comprehensive theoretical foundations to explain cyberbullying perpetration, they failed to consider the role of guardianships to intervene in cyberbullying. Hence, we can conclude that cyberbullying has not been investigated using a compelling socio-technical theory and this is consistent with prior studies (Lowry et al. 2019).

Then, we analysed journals of publications related to the included studies and shown in Table 2. Cyberbullying is a typical multidisciplinary research topic, straddling several research areas like psychology, criminology, information systems, social sciences and health. Table 2 lists journals that have published more than one article (Journals included only 1 article are not added to the table due to space limitations). In total, 11 studies have investigated cyberbullying from the IS discipline, with the remaining 30 studies investigating the phenomenon among adults from other disciplines, primarily psychology and criminology.

Journal	Frequency
Computers in Human Behavior	8
Journal of Interpersonal Violence	3
Psychology of Popular Media Culture	3
Aggression and Violent Behavior	2
Aggressive Behavior	2
Journal of Management Information Systems	2
International Journal of Mental Health Addiction	2

Table 2. Journal publications

3.2 Cyberbullying Defined

The terminology used in cyberbullying research is derived from traditional bullying literature (Kowalski et al. 2019) and much of the past researchers considered cyberbullying as a simple extension of traditional bullying (Alipan et al. 2020). For example, building upon on traditional bullying, the most common definition of cyberbullying by Smith et al. (2008) defines cyberbullying as "An aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and overtime against a victim who cannot easily defend him or herself" (p.376). Therein, Smith et al. (2008) have incorporated three main characteristics of traditional bullying, such as (1) intention, (2) repetition and (3) imbalance of power into their definition (Smith et al. 2008). Similarly, many past researchers considered cyberbullying as an extension of traditional bullying in which intention, aggressiveness, power imbalance, and repetition are core features of this phenomenon (Alipan et al. 2020).

Even though there are some similarities between bullying and cyberbullying, there are further deliberations that the notions associated with traditional bullying, such as intention, repetition, and power imbalance are not always present in cyberbullying (Englander et al. 2017; Vranjes et al. 2017). Because there are different circumstances, motivations, and outcomes of cyberbullying compared with traditional bullying (Vranjes et al. 2017). One of the primary distinctions between cyberbullying and bullying is anonymity. Anonymity may be more pronounced because the bully does not need to have a relationship with the victim or is not as identifiable as traditional bullying (Barlett et al. 2016). Moreover, cyberbullying can happen anywhere and anytime online, in contrast with traditional bullying (Kowalski et al. 2019) which makes cyberbullying more pervasive and harmful than traditional bullying (Huang et al. 2018b). Traditional bullying and cyberbullying also have different punitive consequences (Kowalski et al. 2019). Several studies have shown that cyber victims have experienced more severe health and mental effects than traditional bullying (Orel et al. 2015). Furthermore, the electronic environment in which cyberbullying occurs is exacerbated by additional factors such as lack of non-verbal cues, intrusiveness, viral reach, forever records, that must be considered in order to fully comprehend this phenomenon (Vranjes et al. 2017).

Notwithstanding similarities in cyberbullying and traditional bullying, it is important to understand distinctive features in cyberbullying in order to understand this phenomenon fully (Kowalski et al. 2019). Therefore, there is a considerable debate in the literature as to how cyberbullying should be re-defined, taking the unique context of technology, platforms, and networks into consideration (Chan et al. 2021; Englander et al. 2017). The "lack of a consensual, nuanced definition has limited the field's ability to examine these issues" (Englander et al. 2017, p.148) and might draw an oversimplified conclusion of the nature of cyberbullying.

3.3 Prevalence of Cyberbullying Among Adults

Previous studies imply that a significant portion of college students are perpetrators and/or victims of cyberbullying although the cyberbullying prevalence rates among college students are varied widely (Doane et al. 2014). According to a 2019 US study, 44.2% of female college students had been involved with cyberbullying as a perpetrator, victim and/or witness while in college (Kowalski et al. 2019). Another study showed that 30% of college students were cyberbullied at the college for the first time (Kowalski et al. 2012). Cyber intimate partner aggression (IPA) is also common among college students, with 93% of students reported both perpetration and victimization by minor IPA (e.g., swearing, insulting) while 12% to 13% of students reported perpetration and victimization by severe IPA (e.g., threats, public humiliation) (Watkins et al. 2018). Another interesting finding is that most of the college students who had ever been involved in cyberbullying as a victim, a perpetrator, and/or a witness while in college are also been victims in elementary and high school (Kowalski et al. 2019).

In addition, studies are also shown that there are significant bullying patterns especially among adults in workplaces (Aboujaoude et al. 2015; Vranjes et al. 2017). According to a recent study, nearly half (46.2%) of trainee doctors have experienced cyberbullying in their workplaces, and that has negatively affected their job satisfaction (Lowry et al. 2016). Another study found that 10.7% of male Australian participants indicated that they had been cyberbullied in the workplace on a weekly basis (Kowalski et al. 2019; Privitera and Campbell 2009). Another US study conducted with over 3600 adults, found that over 20% of respondents had cyberbullying victimisation in their adulthood (Kowalski et al. 2017). Among the adult population "intimate partner violence" is one of the most occurred behaviours and some studies revealed that the rates are much higher than other types of cyberbullying (Jenaro et al. 2018).

Although cyberbullying perpetration is prevalent among all age groups, most of the cyberbullying research studies have focused on adolescents or children (Jenaro et al. 2018; Orel et al. 2015) and leaving it unclear how prevalent it is within the wider population (Wang et al. 2019). Studies involving elementary grades and adult populations have received scarce research attention (Kowalski et al. 2017; Kowalski et al. 2019). Consistency with previous researchers (Jenaro et al. 2018; Kowalski et al. 2017; Kowalski et al. 2019) we could observe that significantly less research has been conducted on cyberbullying among adults, and within that limited research niche, much of the focus has been placed on cyberbullying among college students (young adults) and in the workplaces.

3.4 Consequences of Cyberbullying among Adults

Cyberbullying can affect someone's safety, self-perception, health, and education rights and can violate their sense of well-being and lifestyle. Almost all types of online and offline victimisation were independently related to depressive symptoms (Kowalski et al. 2019), distress (Kowalski et al. 2019), loneliness (Kowalski et al. 2019), and increased psychosomatic symptoms (Kowalski et al. 2019). Other than that online victimization was consistently and robustly associated with suicidal ideation to reports of self-injury and suicide attempts (Kowalski et al. 2019). In addition, the limited studies conducted related to workplace context found that workplace cyberbullying is related to perceived stress, reduced mental and physical well-being, job dissatisfaction and decreased performance (Jenaro et al. 2018; Vranjes et al. 2017). According to Tynes et al. (2010), unwanted sexual experiences and racial discrimination were other concerns of online victimisation and cyberbullying.

However, not all victims are equally affected and it's based on their individual characteristics and situational factors (Jenaro et al. 2018). Some of that individual characterises are emotional intelligence, empathy, coping skills and optimism (Doane et al. 2014; Jenaro et al. 2018). Situational factors such as social support, family support and peer support are also making a differential impact on the experiences (Jenaro et al. 2018; Kowalski et al. 2019). Kowalski et al. (2019) also shown that positive family relationships and peer support appear to be a strong factor that moderates the relationship between cyberbullying victimisation and subjective health complaints. Although cyberbullying has created enormous consequences on adults, it has been acknowledged that the impact of cyberbullying on the adult population has received less research attention (Kowalski et al. 2017; Kowalski et al. 2019). Furthermore, there is a lack of longitudinal and long-term research on adult cyberbullying, making it difficult to predict the long-term effects of this phenomenon among adults. (Jenaro et al. 2018).

3.5 Drivers of Cyberbullying among Adults

First, we examined technology-related factors which influence cyberbullying because its salient to cyberbullying. Technology related factors have shown a significant correlation with cyberbullying perpetration across all ages because ICT is present at every age (Kowalski et al. 2019). According to a

recent study, most of the cyberbullies and cyber victims were frequent internet users who generally showed intensified Internet use and increased online skills and expertise (Guo 2016). People of all ages spend more time online through a variety of technological media, therefore the prevalence of cyberbullying also increased across all ages (Kowalski et al. 2019). However, the type of technology used differ based on the age group. Online gaming is a more common cyberbullying venue among elementary school children while social networking sites are increasing common cyberbullying venues among adolescents (Kowalski et al. 2019). Massive multimedia games, social media sites, emails, and instant message apps are common venues for cyberbullying among adults. According to previous research, 35% of participants reported that they have been victims of cyberbullying via these massive multimedia games (Kowalski et al. 2019). Furthermore, research has shown that about 70% of adult cyberbullying victimisation occurred via social networking sites, 49% over emails, 50% via instance messages and 44% of cyberbullying occurred via cellular phones (Kowalski et al. 2017). Furthermore, Lowry et al. (2016) showed that anonymity is also a strong predictor of cyberbullying among adults. Anonymity may be more pronounced because the bully does not need to have a relationship with the victim or is not as identifiable as traditional bullying and the bully's perceived anonymity may increase cyberbullying (Barlett et al. 2016).

Then we examined key personal/individual factors related to cyberbullying. According to a meta-analysis, there is a small, yet significant positive relationship between age and cyberbullying showing that age increases cyberbullying is also increased (Kowalski et al. 2014). Gender is another potential factor that influences cyberbullying perpetration. This relationship has been explored by many researchers (Barlett and Coyne 2014; Guo 2016) but the relationship between gender and cyberbullying perpetration is still unclear (Barlett and Coyne 2014; Kowalski et al. 2019) as there are contradicting findings. However, Barlett and Coyne (2014) found that males were more likely to engage in cyberbullying than females at older ages. Other researchers also supported that finding showing males were involved with a higher level of cyberbullying perpetration than females (Guo 2016). Since males get technologically advanced than females in late adolescence, there is a tendency of males to cyberbully more frequently compared with females (Barlett and Coyne 2014).

Specifically, according to the existing cyberbullying research 'depression', 'self-efficacy', dark-side traits (i.e., psychopathy, Machiavellianism, narcissism) are some of the personality factors positively related to cyberbullying (Chen et al. 2017; Guo 2016). Moral disengagement, online disinhibition and low self-control are other factors that correlated to cyberbullying (Chen et al. 2017; Hemphill and Heerde 2014; Kowalski et al. 2014; Yang et al. 2018). Low self-esteem is one of the widely used risk factors for cyberbullying among middle and high school students (Kowalski et al. 2019). Similarly, some researchers have identified low self-esteem as a potential risk factor for cyberbullying perpetration among adults (Kowalski et al. 2019). Many studies have highlighted that involvement with bullying increased the chances of being involved with cyberbullying as well (Kowalski et al. 2019). Recent studies have shown that the relationship between bullying and cyberbullying continued from post-secondary environments, with a high occurrence rate among college students who have previously been victims of bullying or cyberbullying (Guo 2016; Smith et al. 2008). Although the number of research studies examining this relationship is limited, there is sufficient evidence to show that there is a significant relationship between adults' involvement in bullying and cyberbullying in the workplace (Kowalski et al. 2017; Kowalski et al. 2019).

Broader social factors can shape adults' attitudes, behaviours, relations and socialization with others. A negative family environment and interparental conflict are some other factors that affect young people and may be directly or indirectly linked to their cyberbullying (Guo 2016; Lee et al. 2018). If peers engage in cyberbullying, it is more likely to participate with cyberbullying perpetration and this has been studied from elementary school to college students (Kowalski et al. 2019). Other than those factors, stressful life events, such as the break-up of a romantic relationship (Lianos and McGrath 2018), community-related factors (Kowalski et al. 2019), workplace stressors (Kowalski et al. 2019; Vranjes et al. 2017), academic stain and financial stain (Lianos and McGrath 2018) are some other social factors which can be related to the cyberbullying perpetration among adults.

4 Development of a Cyberbullying Comprehensive Framework

We also developed a framework that can capture the cyberbullying phenomenon. This review helped us not only identify different areas of research but also posit the relationships between these areas. Figure 3 captures these areas of research and their interrelationships in the framework and orange text boxes representing those areas we believe require more research in the future, based on the analysis in the previous section.

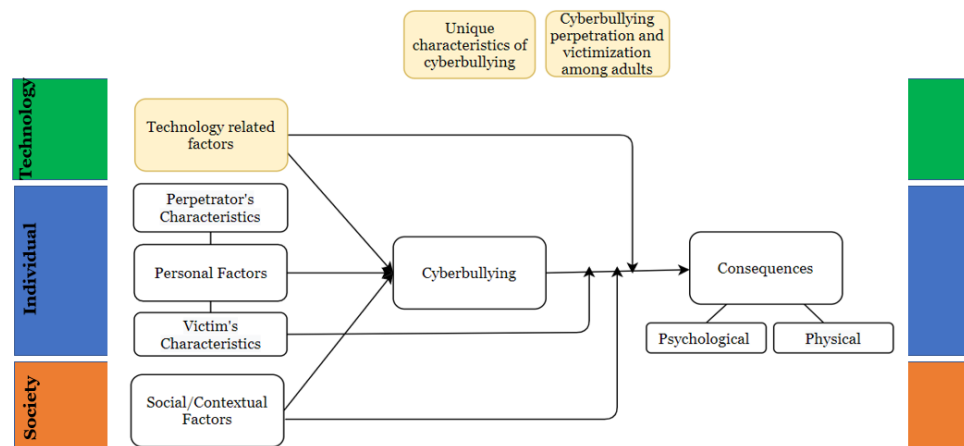


Figure 3: Factors of cyberbullying and their relationships

According to the contemporary literature cyberbullying is an extension of traditional bullying and three main characteristics of traditional bullying, such as (1) intention, (2) repetition and (3) imbalance of power are the main characteristics of cyberbullying. However, some researchers have shown that notions associated with traditional bullying, are not always present in cyberbullying. Because the electronic environment in which cyberbullying occurs is exacerbated by additional technology-related factors, that must be considered in order to fully comprehend this phenomenon. Therefore further research is needed in this area to find out the unique characteristics of cyberbullying.

Other than that drivers of cyberbullying can be divided into three main categories such as personal factors, social factors as well as technology-related factors. Under the personal factors, it's important to investigate the perpetrator's and victim's inner characteristics as well as their tech skills. Perpetrators' high tech skills, as well as victims' low tech skills, seems to have a strong correlation with cyberbullying. Most of the past studies related to psychology and criminology attempted to investigate these personal factors and social/contextual factors. However, scarce attention has been paid to the tech skills of the perpetrators/victims as well as other technology-related factors which influence cyberbullying. Also, the technology access and type of technology used differ based on age. Therefore more studies are needed to investigate this in an adult context.

The issue of cyberbullying can create various consequences on people's psychosocial adjustment or well-being. However not all victims are equally affected, and it's based on their individual characteristics, social/situational factors as well as some technology-related factors. Some technologies such as social media can deliver intense, prolonged attacks which cause severe damage to the victims. These factors appear to be strong factors that can moderate the relationship between cyberbullying and subjective consequences of cyberbullying.

5 Conclusion, Suggestions for Future Research and Contributions

As noted earlier the focus of this paper is to learn about cyberbullying among adults as well as to identify new opportunities for future research. In this paper, a literature review of empirical studies of adult cyberbullying was conducted to examine the overall status of cyberbullying research among adults. We could see that cyberbullying among adults receiving recent research attention and has become a promising research topic that is increasingly attracting the interest of academics. And also, the multidisciplinary nature of the topic has provided many publication opportunities for future researchers across multi-discipline outlets. However, there is a lack of innovative methods being used to measure cyberbullying and that might be one of the reasons for the existing theoretical gap.

In terms of the results of this review, it appears that cyberbullying literature has several other areas that need further attention. We could identify the following gaps in the contemporary literature as opportunities for future work and listed in table 3. Each of these gaps and areas deserves more attention.

Main Category	Findings and Trends	Conclusions/Recommendations
Definitions used in the cyberbullying	Most of the existing definitions used in the cyberbullying literature come from bullying literature and many past researchers considered cyberbullying as an extension of bullying.	However, it's necessary to have a universal definition for cyberbullying co-developed with changes in technology, in order to develop more accurate and realizable measures.

Adoption frameworks	Although some researchers applied broader aggression and psychological theories to investigate cyberbullying, no researcher to date has applied a compelling socio-technical theory in an investigation of cyberbullying especially among adults.	There is a need for stronger, theoretically grounded cyberbullying frameworks designed from a socio-technical perspective to systematically guide specialists to tailor their intervention programs to target this new social phenomenon specifically.
Prevalence of cyberbullying among adults	Most of the cyberbullying research studies have focused on younger populations and cyberbullying among adults only receiving recent research attention. Within that limited research niche among adults, much of the focus has been placed on cyberbullying among college students and in the workplace.	Given that the characteristics related to adults such as maturity, brain development, emotions, motivations, social structures, and access to technology are different to other populations, it is essential to explore cyberbullying among adults. Also, studies need to examine cyberbullying among adult romantic partners.
Consequences of cyberbullying among adults	The impact of cyberbullying on adults has received less research attention. Furthermore, there is a lack of longitudinal and long-term research on adult cyberbullying, making it difficult to predict the long-term effects of this phenomenon among adults.	More studies are needed to investigate the consequences of cyberbullying among adult populations including longitudinal and long-term research to investigate long term consequences.
Drivers of cyberbullying among adults	Previous studies mainly look at either social factors, psychological factors, and/or technology use-related factors, or at most two from this subset (mostly social and psychological).	However, it's very important to investigate all these personal, social, and technology-related factors to understand this phenomenon fully.

Table 3: Gaps in the literature

This research makes a theoretical contribution to the information systems (IS) literature by exploring cyberbullying among adults. The results of the study have implications in multiple ways: (1) they broaden the understanding of cyberbullying as a phenomenon, especially identifying the differences between cyberbullying and traditional bullying; (2) identifying the difference between cyberbullying among adults vs other populations (3) Finally, a better understanding of the socio-technical factors that influence such behaviours can encourage researchers to develop technologies that prevent or deter cyberbullying in addition to designing policies and procedures. The research presented in this paper has been limited by the small number of studies conducted relating to adult cyberbullying.

6 References

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