

School of Business, Economics, and IT

Division of Informatics

**Cyberbullying in social media : Is victimization more prevalent among adolescents or adults?**

**- A comparative study**

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**Abstract**

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The rapid advancement of information and communication technologies promises a life-changing, relationship-altering societal revolution, which is already underway at the 21st century. Many new ways of communication and face-to-face engagement have emerged as a result of social media and the Internet, altering how people relate to and interact with one another. This socio-technological revolution, however, has both positive and harmful components. Regrettably, negative societal concerns get significantly less attention and research. Given the current state of the prevailing high rate of psychological association with cyberbully victims, this literature review provides a critical synthesis of the existing information that helps to illustrates the prevalence rate of victimization among adolescents and adults. Firstly, the readers are given an overview of what is cyberbullying and how social media works. Then the study methods are discussed with some limitations. Key findings and theories related to cyberbullying are presented followed by interpretation of the results. Implications and further directions for future research is discussed.

**Keywords:** cyberbullying, social media, prevalence rate, cybervictims, adolescents, adults, cyberharassment

**Introduction**

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The ubiquity of social media usage in this 21st century among the lives of youth and adults plays a major role on personal as well as professional front.Popular social networking sites like Facebook, LinkedIn, etc.., has given an opportunity to connect as well as reconnect right from our grandparents to high school sweetheart in almost any part of the world,with just a simple search. This search happens sometimes with transparency and sometime anonymously. Individuals who feel lonely tend to keep themselves engaged with someone who gives them love, care and attention, but virtually! Along with this sweet side of social media comes the bitter part also. Often, this fusion of instant connectivity and physical separation has it's downside also. There is a noticeable change in behaviour,that is not considered normal in daily life which can lead to unforeseen and drastic consequences. One such behaviour with the emergence of social media drastic usage is *Cyberbullying*. Cyberspace gives a platform to make it easier with high accessibility.

The term cyberbullying can be dealt with various forms of definitions,but identical to each other among the studies. One such consensus that has been reached among the group is as follows. Cyberbullying can be defined as *"repetitive,aggressive intentional act by an individual or a group on a virtual platform using Information and Communication Technologies (ICT) which can be in the form of an harassment, embarrassment, mistreat, hurting behaviour in the form of physical and emotional well-being carried overtime against a victim, who is not in a position to defend him/herself"*(Kowalski, Limber and McCord, 2019). According to a data set obtained on October 2021, it shows that nearly 57.6% of the world's population are active users with an average time of more than two hours spent per day. Social media platforms like *YouTube, WhatsApp, Instagram, Twitter, Snapchat*, etc., has been favourite among the users from age 16 to 24 next only to Facebook topping the chart. The average number of platforms used per month for a user accounts to around 5 – 6 (DataReportal, 2021).

With this growing number, it is very important to analyze the prevalence rate of cyberbullying victimization among the users. There has been many studies involved with cyberbully detection, prediction and intervention techniques among adolescents and adults. Most of the studies focus on the prevalence rate of cyberbully victims either among adolescents or adults, leaving a void for this comparative study. Therefore, the purpose of this literature study is to examine the published articles pertaining to this topic and aims to provide a comparative analysis with the prevalence rate of cyberbully victims among adolescents, young adults and adults through this lens. Further more, this review focuses on adolescents in the age group 10 – 18 , and adults with age range of 18 and above., which has been decided among the team to be in consistent with the review structure and study data. Adding to this, the term cybervictims, has been used interchangeably with cyberbullying victimization. Also, cyberbully has been referred in most of the places as cyberharassment, cyber aggression. Moreover, this review focused on the techniques carried out by researchers in the study to predict cyberbully victims. Some of the limitations were discussed during the study process and future suggestions were provided. One such suggestion was, this study would open up for more research on specific intervention techniques to prevent cyberbullying among the three age groups and validate it's effectiveness in the future.

**Methodology**

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**Search Methods**

A review of relevant articles pertaining to the study were thoroughly searched in various databases initially. With the vast number of articles obtained, to make the study easier and persistent, the authors limited to use *'Scopus'* and *'ScienceDirect'* . Databases through *University West*'s Library. Search terms used were

*'Cyberbullying AND Prevalence' AND ('adolescents OR adults').*

**Inclusion and exclusion criteria**

Few main inclusion criteria were used: The article was written in the English language, Review and research articles published during the year 2017 to 2021 were used.

Much of the studies were excluded if they did not focus specifically on cyberbullying prevalence rate and based on the abstract content. Few studies titles were clear enough to exclude (i.e., title which did not have the word cyberbullying and studies not covering at least more than three regions).

**Article selection process**

Post application of inclusion and exclusion criteria, the authors decided to split the number of articles and independently reviewed each of the identified articles. Information that concerned study demographics, target age group and type of study were extracted. Tables of article selected, and study description were developed to provide accuracy and completeness, along with the conclusion drawn from each article. The prefinalized list of articles were shared among the authors and a quick brainstorming session to provide feedback on each article. Any disagreement between the authors was discussed till a consensus was reached. One such article (Lowry et al., 2016) that was included right from the beginning belonged to the year 2016 but published by the end of the December, Due to the article’s high-quality content and excellent analysis, this was agreed by all the authors to be included as a part of this literature study. Thus, a positive feedback loop was always maintained within the team. This helped to carefully select the relevant and necessary articles to be included in the study.

A simple flow diagram of the article selection process is illustrated in figure 1.

Total number of articles

SCOPUS : 350

ScienceDirect : 680



Pre final count: 17

Inclusion criteria applied

Year : 2017 -2021

Language : English

Total number of articles : 680

SCOPUS : 223

ScienceDirect : 457

Filter ‘Review articles’ OR ‘Research Articles’

Number of articles obtained : 552

Exclusion criteria

Number of articles removed based on

Title: 217

Duplicates: 103

Reading Abstract :128

Total number of articles left: 104

Number of excluded articles : 4

(3 region-specific and 1 old article)

Total number of articles included in study: 13

**Figure 1: Flow process of the article selection process**

**Results**

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Among the articles included to compare the prevalence rate of cyberbullying victimization in the said groups, half of the studies used the already available statistical data. (Hu et al., 2021; Camerini et al., 2020; Kowalski, Limber and McCord, 2019; Lozano-Blasco, Cortés-Pascual and Latorre-Martínez, 2020; ; Jenaro, Flores and Frías, 2018; Arnarsson et al., 2020; Chan, Cheung and Lee, 2021). Other half of the articles conducted their own research in the form of a questionnaire, online ads or survey and published their findings(Craig et al., 2020; Wang et al., 2019; Lowry et al., 2016; Kowalski, Toth and Morgan, 2018; Betts, Baguley and Gardner, 2019)With this in mind, repetitive data has been excluded from few articles to avoid duplication of results and findings presented. Further to this, even though the included articles were published in the year 2017 to 2021, the analytical and statistical data that the researchers used in their respective studies were approximately a decade ago. Due to this reason, statistical data from 2011 onwards has been considered to maintain consistency and provide better evaluation. This section has been further subdivided with the findings to show the prevalence rate among school children in the age group 10 to 18, young adults in the age group of 18 to 24 and adults who fall in the age group of above 24, more precisely in the workplace. One half of the articles belonged to the *‘Department of Psychology’*, while the other half were published under *‘Computers in Human Behaviour’* and *‘Information and Management’.*

**Prevalence rate of cyberbullying victimization in Adolescents**

This section aims to provide the prevalence rate of cyberbullying victimization among elementary and middle school children. Craig, et al. (2020) conducted a Health Behaviour in School-Aged Children (HBSC) study falling under the age group 11, 13 and 15 during the academic year 2017 - 2018. This survey was conducted majorly in the regions of Europe and Canada. The prevalence range were analyzed based on the three factors of social media usage like 'Intense use', 'Problematic use' and 'Frequent contact with strangers'. The overall median prevalence range of victimization by cyberbullying per 100 children was around 25, 26 and 24 for 11-, 13- and 15-year-old respectively. Hu, et al. (2021) used 57 empirical studies (ref table 1) with a total of 105,440 participants across age group 10 - 25 in their research to show the correlation between cybervictims and depression. The researchers' findings were clear enough to point out that with increase in age, depression also increases and currently prevalent among girls and elder teenagers.

Out of the 76 longitudinal studies used by Camerini, et al. (2020), 35 studies predicted the rate of Cyberbully Victims. This review was analyzed with studies paced at two-time intervals with a gap of 6 - 12 months. The preferred study group was middle school students. It was stated that the prevalence rate of Cyberbully victims was at a median range of 14.4% during the initial time period. Among the 159 studies used by Kowalski, Limber and McCord, (2019) Cyberbully victimization rate ranged from 1.0% to 61.1%. Few studies that the author would like to highlight used by Kowalski, Limber and McCord, (2019) is as follows. In a HBSC study conducted in 2013- 2014, victimization rate was 10% for 11-year old’s, 11% for 13-year old’s and 15-year-olds. Victimization rate among 6-to-11-year-olds was found to be 51% in the UK, 27% in Turkey and at least a quarter of school children in the US. Children in grade 3 to 5 accounted for 18% of cyberbully victims in North America.

Lozano-Blasco, Cortés-Pascual and Latorre-Martínez, (2020) used 22 studies to detect the duality phenomenon of cyberbullying. Out of these 22 studies, few studies (Lozano-Blasco, Cortés-Pascual and Latorre-Martínez, (2020), p.2, see Table 1)that has been selected to give information about the victimization rate. Two studies shows that in England during the year 2015 and 2016, victimization rate was 16.22% and 20.4% among the age group 17 and 12 - 13 respectively. While in Spain it was 16.0% and in South Korea,14.0%. So far, much of the articles described showed a score of on and above 10% victimization rate. On the contrary, HBSC survey conducted in the Nordic countries(Norway, Denmark, Finland, Iceland, Sweden) for 11,13- and 15-year-olds around 2013-2014, the prevalence rate was only around 2%. Exception to this was Greenland which had the highest score of 9%. Remarkably, among the Nordic countries, Sweden had the lowest prevalence rate. (Arnarsson et al., 2020)

Studies by Watts, et al. (2017) and Jenaro, Flores and Frías, (2018) involved much of undergraduate/college-going students. Watts, et al. (2017) argues that, in a study which involved 1368 students of Canada and US college, victims in high school were likely to have the same experience by more than three times in college also.

**Prevalence rate of cyberbullying victimization in adults**

Wang, et al. (2019) was the first to examine and explore the age, ethnicity, and gender differences in relation to cyberbullying experience among adult population with different age groups in New Zealand. At the end of the analysis, it was estimated that around 14.9% of the total adult population has been victims of cyberbullying at least once in their lifetime. Also, adult in the age group of 18-25 topped the charts with an overall range of 43.0%, while older age population above 66 had the least prevalence rate.( Wang et al., 2019, p.739 see Table 2). Kowalski, Toth and Morgan (2018) conducted two studies among the adult residents in the US to detect the correlation between bullying and cyberbullying along with several other factors. Surprisingly, the most recent and majority of respondents who had been targets of cyberbullying was during their adulthood(Kowalski, Toth and Morgan,2018, p.69 see table 1). Betts, Baguley and Gardner, (2019) used online ads among age group 18 -71 for their studies where most of the participants were from US, UK and Tunisia. The main scope of this article was to identify two groups, one being rare victim and bully, other one as frequent victim and occasional bully. The prevalence rate among the latter group was 15% which is much lower when compared to 85% with the former group.

For better and clear understanding, the selected articles with the scope of study and available demographics are presented in table 1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Scope of study** | | **Number of participants/studies & age group** | **Regions included** | |
| Study 1: Hu et al., 2021 | | | | |
| Correlation between cyberbullying victimization and depression | | 105, 440  Mean age : 10.85 - 24.67 | North america, Asia, Canada | |
| Study 2: Camerini et al., 2020 | | | | |
| Predictors and Outcomes of cyberbullying perpetration  and victimization. | 35 studies  Age: 10.5 -15.5  (Focus on middle school) | | | Europe, North America, Oceania, Asia, and 1 unknown location |
| Study 3 : Craig et al., 2020 | | | | |
| Negative consequences of social media usage and it’s impact on adolescent health. | | 180,919  Age : 11 , 13 and 15 | | 42 EU (includes England) and Canada |
| Study 4 : Kowalski, Limber and McCord, 2019 | | | | |
| With increased usage of ICT relevant to younger children, cyberbullying, like traditional bullying, will continue to be an issue across the lifespan. | | 159 studies | | 42 Eu + Us, Australia, Turkey, Israel, Hawaii |
| Study 5 : Watts et al., 2017 | | | | |
| Cyberbullying among college students. | | 1368 | | Canada, America |
| Study 6 : Lozano-Blasco, Cortés-Pascual and Latorre-Martínez, 2020 | | | | |
| Dual phenomenon of being a cyberbully and victim | | 47,836 adolescents  22 studies  Mean age : 13.68 | | South America, England, Spain, South Korea. (excluded old studies prior to 2011) |
| Study 7 : Jenaro, Flores and Frías, 2018 | | | | |
| Cyberbullying and its short and long term impact in adult victims | | 90 studies  Age : 18 - 65 | | USA, Australia, Turkey, UK, Israel, Portugal and Spain, Brazil, Canada, Cyprus, Czech Republic, Germany, Greece, India, Italy, Macau, New Zealand, Russia, Sweden, and Taiwan. |
| Study 8 : Wang et al., 2019 | | | | |
| Exploring Gender, Ethnic, and Age Differences in the Prevalence of Cyberbullying among adults. | | 20,849  Age: 18 - 97 | | New Zealand |
| Study 9 : Lowry et al., 2016 | | | | |
| Proposal of social media cyberbullying model (SMCBM) | | 1003 | | US |
| Study 10 : Kowalski, Toth and Morgan, 2018 | | | | |
| Prevalence rates and correlation of traditional bullying and cyberbullying in adults. | | 3,699  Mean Age : 37 | | US (Included only Study 1) |
| Study 11 : Betts, Baguley and Gardner, 2019 | | | | |
| Identification of two distinct groups: rare victim and frequent bully , frequent victim and occasional bully. | | 264  Age : 18- 71 | | 31 countries (Tunisia, US, UK) +  (other countries not mentioned) |
| Study 12 : Arnarsson et al., 2020 | | | | |
| Prevalence of cyberbullying by both pictures and by messages in Nordic countries. | | 32,210  Age: 11, 13 and 15 | | Norway, Sweden, Denmark, Finland, Iceland and Greenland |
| Study 13 : Chan, Cheung and Lee, 2021 | | | | |
| Identified research themes and patterns , theoretical foundations of published studies on SNS bullying. | | Inclusion of all studies conducted so far relative to cyberbullying in social media | | Inclusion of all studies conducted so far relative to cyberbullying in social media |

**Table 1: Presentation of each study with available demographics relevant to this review**

**Theories used**

Cyberbullying in social media can be considered as an event or an episode occurring between victims and bullies. Chan, Cheung and Lee, (2021) discovered that, very few studies has come up with adopted theories or frameworks that helped researchers to examine Cyberbullying in Social Networking Sites. Chan, Cheung and Lee, (2021) has exquisitely formulated a table that exemplifies the theories and it's relative usage in Social media bullying(Chan, Cheung and Lee, 2021, see table 3). Two such theories that has been found to predominantly exists in the selected studies is the *'Social cognitive theory* (SCT)'(Camerini et al., 2020 and Chan, Cheung and Lee, 2021; ) and *'Social Dominance Theory* (SDT)' (Watts et al., 2017 and Betts, Baguley and Gardner, 2019; ). Also, Chan, Cheung and Lee, (2021) show that 'Social Cognitive Theory' helped to develop an integrative framework that exposed the triadic relationship between victims, bystanders, and perpetrators as shown in Figure 2. Betts, Baguley and Gardner (2019) use the *Social Dominance Theory* for their study which suggests that aggressive behaviour is often exhibited by a dominating person over a low-status victim in order to gain status in a social group.

Diagram

Description automatically generated

**Figure 2: Triadic relationship between cybervictims, perpetrators and cyberbullies** (Chan, Cheung and Lee, 2021, p.7 see Figure 2)

However, Watts, et al. (2017) observes the use of SDT in two of their studies as follows. One study(Walker 2011 see Watts et al., 2017, p.270) proposed the characteristics of cyberbullies such that young age individuals are dominated by older individuals; authoritative groups tend to dominate where relationships or items are in favor of them, sometimes considered unfavorable by others. These two factors, gender and dominating groups when inclined towards social dominance sorts brings out the difference between a victim and a perpetrator. On the contrary, another study (Walker 2014 see Watts et al., 2017 see p.271) conducted to test SDT did not agree with the role of gender playing a dominant role. This was proved when a statistical survey to predict cyberbullying taken among college students. Although the numbers were on the higher side for boys(9.6%) than girls(6.9%), there was not much notable difference which clearly demonstrates males did not make an effort to portray their dominance through cyberbullying.

**Discussion**

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Along with an excellent statistical information from Kowalski, Toth and Morgan (2018) it brought out the real face of cyberbullying among adult population with the term such as cyberincivility. This study was good enough to show that cyberbullying majorly occurs in social media networking sites followed by instant messaging, emails, and mobile phones. Surprisingly, persons who were involved in cyberbullying was led by strangers, followed by colleagues, and then by a spouse or friend (Kowalski, Toth and Morgan, 2018). This could also open doors for more stringent laws for adult cyberbullying as the authors indicated that there are already available programs at school level and that adults should also be engaged with such programs at workplace. Similar to study by Lozano-Blasco, Cortés-Pascual and Latorre-Martínez (2020) is Betts, Baguley and Gardner (2019) review , but focus on adult’s role and identification of two groups in cyberbullying. The ratio of rare victim - frequent bully to frequent victim - rare bully was considerably high, which demands for more specific studies to identify risks in cyberbullying among adult groups. There was also another contradictory fact that frequent victims - rare bully was observed among males and younger population while previous studies suggest girls and older adolescents were highly prone to being victimized. So, the age and gender play a major role when it comes to effective analysis.

So far, articles that dealt with victimization prevalence rate among adolescents was on the higher side was brought down by Arnarsson, et al. (2020) who argues that it is considerably low in Nordic countries except Greenland. It can be arguing that this study was based on data set obtained in the year 2013-2014, but one could not deny the qualitative analysis that brought light to a new research area. Children who were subjected to cyberbullying had lower life satisfaction and often hail from a single-parent family of stepfamilies. This study also strongly established that there is very little overlap between traditional bullying and cyberbullying calling to claim both as two separate phenomena that has its roots from different mechanisms. But this holds good only in the Nordic context.

**Viewpoint**

This section expresses the author’s perspective on the analysis of all the review articles captured in this report. The author claims that there are affluent replication studies in addition to specific areas of discipline. Firstly, the missing factors that could be made available in the future studies is discussed as follows.

\* Availability of number of social media users among adolescents and adults

\* Proper classification of usage ratio among school children, young adults(undergraduates) and adults, old age population can be considered.

\* Use of recent studies (at least 2 years old) rather than using source of a decade old.

\* A mixed range of countries can be included which will make a good comparative study. Each culture varies. So, is the parenting style which can bring different flavors of research area.

\* When it comes to adult population, the data related to occupation also plays a major role, which is missing in all the adult studies. IT, Non-IT, academic, health care and other job areas can be narrowed down to bring out the victimization rate as each work culture varies, so is the mindset of a professional.

A summary of the key factors about cyberbullying based on all the findings and discussion is presented below.

\* Cyberbullying can be of any form.

\* Social media platform is the most widely used medium for cyberbullying.

\* Cyberbullying can affect anyone irrespective of their ethnicity, gender, and age.

\* Not only aggressive behaviour in cyberspace accounts for cyberbullying, but anything also that could be sensitive to an individual that affect him/her emotionally and socially on a digital platform can be cyberbullying.

\* Depression and anxiety are likely to be common among adolescents.

\* Job dissatisfaction is common among adults due to cyberbullying.

\* Cyberbullying programs imparted at schools can be improvised to being more transparent and open with elders to get support. As important it is to not become a cybervictims, it is important to not being a cyberbully also.

\* Extension of cyberbullying programs at workplace can be implemented.

**Future research**

It is highly important to highlight the future research areas to gain attention and seek clarity when it comes to cyberbullying with the rapid advancement of technology. Although there have been many studies to detect cyberbullying in many platforms, there has been less studies to validate the same. Association between the user profiles should be studied first and then detection of the same could happen. This could be related to real-time scenario, where two users are real-time friends and have a healthy relationship. It is not uncommon to share some text/messages face-to-face frequently between them. But when they chat on a social media platform, what seem to be demeaning or hurtful to others may not be the same among these two users. This could be done with the help of checking the user profile and associativity between them. On all cases, data security and privacy guidelines should not be violated. Whenever, an account is created on any social media platform, there is a disclaimer asking for the user to agree on terms and conditions, still there is a data breach happening. The question here is *'Do all the users understand this?'.* A single perpetrator can have numerous fake profiles and inflict harm to others. Degree of variance in behavioral changes among perpetrators, victims and bystanders could be studied which in turn leads to deviations in intervention programs. More studies could come up for adult population not pertaining to specific regions only. Intervention programs have been implemented at schools, but are they available in all the countries? Reasons and factors for non-implementation could be considered.

It is evident that there is a lot of research work to be accomplished to get more evidence and proof of concept at least among the adult population.

**Conclusion**

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Technological advancements are built with the intention to free humans from intensive manual labor and enhance harmony both personally and professionally. One of the main aims of this study was not to underestimate the progress of Communication technology tools especially in social media. In this way, people tend to act as producers as well as consumers. One of the salient features of social networking is *'connectivity'* that it brings in a loosely connected society. This way lost or hidden relationships are recaptured, but at the cost of public exposure. Although, social media brings a feeling of closely knit among friends, peers, it has given an exponential opportunity to alter the way people interact in real life. Adolescents who are still in their formative years needs to learn morale values not only through good education, but with personal experiences also. Put in other words, young adults should be taught to behave with good integrity. This can be taught only by a healthy relationship, which forms the heart of the society. In other words, cyberspace should not be an amplification factor to dominate the *'humane'* side by *'inhumane'* side. Social media should be used more of a facilitative tool to assist in establishing benign relationships in a society, be it an adolescent or adult. Therefore, to draw a firm conclusion on the prevalence rate of victimization among adolescents or adults is difficult to answer.

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