

**Gender differences in cyberbullying among adolescents: a
systematic review of the literature**

Abstract

While the Internet's expansion has brought ease, it may also be exploited for harmful purposes. Cyberbullying has become a severe social health concern during the last decade. Around 20% to 40% of teenagers worldwide have been subjected to at least one instance of cyberbullying. This study's major objective is to examine the prevalence of cyberbullying among teenagers, the effect it has on teenagers, and, more specifically, the role of gender in teenage cyberbullying. The study will also explore the causes of gender inequalities and the school's and teachers' strategies to tackle cyberbullying. To do this, I did a systematic review and assessment of current evidence, looking for published and unpublished publications using standard inclusion criteria in the Web of Science, EBSCOhost, ProQuest, Cochrane, PsycINFO, and Google Scholar databases. Thirteen suitable papers were selected and included in the analysis throughout the screening phase. The findings suggest that girls are more likely to be victims of cyberbullying than boys and that there is a degree of overlap between victims and perpetrators. The reasons for gender disparities in cyberbullying may be explained in part by the fact that boys and girls utilize the Internet differently and other reasons. The review's results imply that schools and teachers should promote self-awareness education among teenagers to safeguard their physical and psychological development.

Keywords: teenagers, cyberbullying, internet, gender, tactics.

Acknowledgments

For this accomplishment, I owe gratitude to a significant number of people. To begin, I'd want to express my gratitude to my dissertation supervisor, Barg Katherin, for encouraging and patiently guiding me during my dissertation. I'd also like to express my gratitude to my personal tutor, Grey Sue, who has always addressed my physical and emotional well-being while also assisting me with my academic successes. I could not have completed my dissertation without their passion. Following that, I'd like to express my gratitude to my classmates for their support throughout this journey, which occurred during a very trying period of the pandemic. They provided encouragement and love during my dissertation struggles.

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1. Introduction

As Internet technology improves at remarkable speed, a rising number of people, especially young people, are using it to access information and communicate with others online (Nixon, 2014). For most people, the change from face-to-face conversation to online communication has led to previously unheard-of daily conveniences such as unfettered access to knowledge and information exchange. While the Internet has promoted advancement and comfort in society, it may also operate as a double-edged sword, exposing the darker side of human conduct (Wölfer et al., 2014). We must acknowledge that ubiquitous internet usage has exposed many individuals, especially teens, to the internet world, making them easy targets. One of the key concerns is that, as information technology advances at a breakneck pace, cyberbullying has become an increasingly prevalent issue in schools and across society (X. Wang et al., 2019).

Cyberbullying is prevalent in many regions of the globe according to researchers (Görzig & Ólafsson, 2013). For instance, Tokunaga (2010) discovered that between 20% to 40% of teens experience some kind of cyberbullying throughout their adolescent years. As can be seen, cyberbullying is a serious concern for teenagers. According to Smith et al. (2008), cyberbullying is a new contemporary kind of bullying that meets three major standards: Intention to injure, recurrence, and a power imbalance between the victim and the perpetrator. This imbalance in power may have nothing to do with the bodily size difference between cyberbullies and cyber victims, but rather with the amount of technical expertise possessed by the cyberbullies (Kowalski et al., 2019).

At the same time, studies contend that cyberbullying, a relatively new kind of bullying, may be more harmful than traditional forms of bullying (Kowalski et al., 2014). To begin, the anonymity of cyberspace may intensify concerns about online inhibitory effects, which may contribute to the perpetration of cyberbullying. In other words, cyberbullies may be motivated by the anonymity of cyberbullying. Additionally, due to the geographical and temporal distance between people, they are less sensitive to the consequences of their online conduct (Chan & Wong, 2017). Second, cyberbullying, unlike conventional bullying, may occur at any moment and from any place. As a result,

victims may find themselves unable to escape bullying while using the Internet (Cassidy et al., 2013). Third, comments on websites seem to stick with you. Everyone has unlimited access to the comments and may quickly copy and distribute the information by just clicking on a button. Due to the permanence and reproducibility of online communication, it is a possible lead to further cyberbullying and repeated suffering for victims (Kowalski et al., 2014).

1.1 Significance of the study

Many years have been spent researching the consequences of cyberbullying, and a range of negative impacts have been reported (Wölfer et al., 2014). For example, anxiety, drug misuse, stress, low self-esteem, sadness, reduced life satisfaction, physical symptoms, poor academic performance, and suicidal thoughts (Kowalski et al., 2014). All these results revealed that cyberbullying is a significant issue. Due to the very harmful impact cyberbullying can have, it is important to have up-to-date studies on the subject.

In recent years, there has been an expansion in academic attention paid to this global sociological issue (Lwin et al., 2016). Simultaneously, gender disparities are a factor in a variety of domains relevant to young people's lives, and examining them about cyberbullying makes sense (e.g., Li, 2006). Understanding gender's effect is crucial because it enables academics, practitioners such as teachers, and policymakers to establish prevention measures.

1.2 Purposes and approach of this study

According to my review of the literature, boys are more prone to participate in bullying than girls, and that their aggressive behavior is more likely to be physical according to several traditional bullying studies (Olweus, 2012). However, cyberbullying does not require physical interaction between the bullies and victims. Therefore, Barlett & Coyne (2014) pointed out that in cyberbullying, gender inequalities may not be as apparent as in traditional bullying. On the other hand, numerous studies have shown conflicting results regarding the role of gender in cyberbullying.

As a result, this research's primary purpose was to increase our knowledge of cyberbullying among teenagers and to explore gender disparities in cyberbullying among adolescents, it contains research on victims and bullies.

However, to avoid the widespread incidence of such behaviors as cyberbullying, further studies on possible risk factors for cyberbullying are required.

Additionally, most studies have focused exclusively on gender differences in cyberbullying incidence and the negative consequences for adolescents, without examining the underlying causes of these differences or discussing some of the strategic concerns raised by schools and teachers in response to gender differences.

Therefore, another goal of this research was to learn more about the variables that lead to gender disparities in cyberbullying and to utilize that information to evaluate solutions produced by teachers and schools to combat cyberbullying.

To examine the study's two key objectives, I conducted a secondary assessment of the existing literature using a systematic review and six databases to create detailed results and provide evidence to address the research problems.

The following is the organizational structure of this dissertation. The next chapter provides a critical and focused review of the cyberbullying literature and sets out three research questions. I then describe the methodology of the study and provide the results of the data analysis. Finally, I provide an overview of the subject and consider its implications for future studies and practice.

2. Background

This chapter will conduct a review of the existing literature on cyberbullying, beginning with a definition of the word "cyberbullying" and moving on to a discussion of the "prevalence of cyberbullying" and the "effect of cyberbullying on victims." Additionally, a review of the research on gender differences in cyberbullying is included. Additionally, this chapter also presents the research questions that guided this systematic literature review.

2.1 Cyberbullying: A Conceptualization

Cyberbullying study has expanded in recent years, and there is an abundance of literature available. New technologies, such as the Internet, have made cyberbullying a more prevalent form of violence. Patchin & Hinduja (2006) define cyberbullying as “deliberate and repeated victimization” via the use of mobile phones, email, online chat, social media. According to Olthof et al. (2011), Cyberbullying occurs when an individual or group of individuals purposefully targets another individual or group for their own personal gain. Smith et al. (2008) describe cyberbullying as “persistent and continuous hostile, purposeful activity by a group or person utilizing electronic means of communication against a victim who is unable to defend himself or herself.” (p. 376).

It is crucial to keep in mind that this phrase is derived from the definition of traditional bullying, which is “aggressive, deliberate, and repeated action aimed towards a helpless victim” (Olweus, 2012). According to Smith et al. (2008), the only distinction between traditional bullying and cyberbullying is whether the abuse is perpetrated via the use of technological means. However, the conceptual intricacies of traditional bullying and cyberbullying may not be adequately accounted for. According to Bayraktar et al. (2015), in many ways, cyberbullying is distinct from traditional forms of bullying (for example, cyberbullying does not require face-to-face contact, is generally more indirect, and involves minimal physical force).

Menesini & Nocentini (2009) explore the difficulties of cyberbullying and criticize researchers for not being rigorous in their definitions. In the past, bullying was seen to be a purposeful misuse of power. It is meticulous, repetitive, and deliberate (Sharp & Smith, 2002). In contrast to traditional bullying, cyberbullying may be devoid of power imbalances. Pieschl et al. (2013) make a similar argument, arguing against defining cyberbullying in terms of traditional bullying traits (e.g., power imbalance, recurrence, and the purpose to injure are all factors that contribute to violence, etc.), even though both forms of bullying (traditional bullying and cyberbullying) share some characteristics. As a consequence, rather than a theoretically new occurrence, cyberbullying might be viewed as an inventive method of attack (Gradinger et al., 2009).

Smith & Steffgen (2013) define cyberbullying as follows to illustrate how it differs from traditional bullying:

- (1) Cyberbullying demands the use of technology. While sending emails and SMS (Short Message Service) messages is generally straightforward, more intricate forms of attack, such as forging identities, need a higher level of technological expertise.
- (2) Due to the indirect nature of this assault, the bullies are more likely to stay anonymous.
- (3) It is easier for bullies to relinquish moral commitments since they are generally unaware of their victims' responses.
- (4) Compared to traditional bullying, cyberbullying entails a more intricate set of spectator roles.
- (5) Cyberbullying targets a much bigger audience.
- (6) Unlike conventional bullies, who are visible just during the school day, cyberbullies may communicate with their victims at any time. Therefore, victims of cyberbullying have nowhere to hide from their bullies, regardless of whether they change schools or relocate to a different city or town.

The researchers also discovered more distinguishing characteristics. For instance, since cyberbullying commonly happens outside of school, teachers usually struggle to keep it under control (Kraft & Wang, 2009). Being both the bullies and the victim is more widespread in cyberbullying than in traditional bullying (Kowalski et al., 2012).

The connection between these two forms of bullying is more complex than we may believe. Due to the specific characteristics of cyberbullying, it is more pernicious than traditional bullying: anonymity increased opportunity for moral disengagement, more bystanders, difficulties identifying the aggressor, length of the bullying incident, and so on (Park et al., 2014).

2.2 Forms of cyberbullying

Cyberbullying has been studied from several perspectives in the past. Griezel et al. (2008), for example, emphasize that conventional bullying largely comprises of physical injury, verbal intimidation, verbal bullying, and social bullying, which includes isolation, humiliation, and spreading rumors. Cyberbullying, on the other hand, is mostly visual and textual in nature and includes bullying through text messages, emails, or social media platforms. P. Smith et al.(2007) classify cyberbullying into the following seven categories:

- Text messages - may entail the unsolicited communication of threatening or scary texts.
- Photographs/video clips (through cell phone) - may be used to convey images that instill fear and humiliation in the victim.
- Telephone conversations - This covers both subtle and overt telephone interactions.
- Emails - The transmission of life-threatening messages through email.
- Chat rooms - It is possible to send dangerous and disturbing words or answers to other participants in the chat room.
- Instant messaging (IM) - An online type of bullying in which the victim is sent offensive messages.
- Webpages - these maybe blogs (weblogs), personal websites, or online voting platforms.

Additionally, Abeelee & De Cock (2013) noted that cyberbullying may manifest itself in two ways: direct cyberbullying (e.g., directly emailing the victim with rude statements) and indirect cyberbullying (e.g., chatting about them behind their backs). In their research on cyberbullying, they distinguish three forms of bullying: gossiping, deliberate bullying through phone calls or text messages, and creating images or videos to damage others.

Additionally, according to Qing (2015), new forms of technology (e.g., games) will complicate the definition of cyberbullying.

2.3 Prevalence of Cyberbullying

According to data and studies from throughout the world, the prevalence of cyberbullying is constantly increasing. For example, in the United States, Kowalski & Limber (2007) researched cyberbullying among 3767 secondary students and discovered that 11% of respondents were victims of cyberbullying, 7% were perpetrators, and 4% had experienced cyberbullying at least once in the previous few months. Similarly, Chen & Chen (2020) conducted a cyberbullying study among 732 junior high school students (Grade 7 to 9 students) in mainland China and discovered that 7.7 percent of respondents admitted to engaging in at least one instance of cyberbullying against another person and 23.8 percent admitted to being a victim of cyberbullying at least once. Another study, which polled 177 secondary school students in Western Canada, found that almost 25% of students had been cyberbullied and nearly 15% had harassed others through the technology of electronic communication (Li, 2007).

P. K. Smith et al.(2006) discovered a victimization rate of 22% in the United Kingdom. According to Kapatzia & Syngollitou (2007), in Greece, 6% of cyberbullying victims and 7% of cyberbullying perpetrators. Slonje & Smith (2008) found 5.3% of students in Sweden claimed to be cyber victims, while 10.3% reported being cyberbullies Dilmac (2009) discovered that cyberbullying occurs at a rate of 23% among university students in Turkey, while cyber victimization occurs at a rate of 55%.

As shown, the incidence of cyberbullying varies according to country or literature (Kowalski et al., 2014). Although Kowalski et al. (2014) estimate the prevalence of cyberbullying to be between 10% and 14%, other studies have shown considerably higher rates; Campfield (2008) pointed out that 69% of respondents claimed to be either bullies themselves or bullied by others. According to Katzer et al. (2009), At least once in the past year, 75% of school-aged teens reported that they have experienced cyberbullying.

As seen above, the prevalence of cyberbullying varies widely. Patchin & Hinduja (2012) evaluated 35 research studies and found that victimization rates varied from 5.5% to 72%. According to Sabella et al. (2013), the figure is between 6% and 30%. COOK et al. (2009) assessed it to be between 5% and 44%.

Mehari et al. (2014) found that the prevalence of cyberbullying is affected by the different measures utilized by researchers. Kowalski et al. (2014) suggest that this is mainly related to two factors: the nature of the items utilized, as well as the properties of the underlying definitions.

(a) Some academics have measured cyberbullying using items with varying degrees of content. For example, some researchers employ a single item to assess cyberbullying, while others use many items, making comparisons difficult and resulting in disparate prevalence statistics.

(b) The content of the definitions used. While attempts have been made today to obtain agreement on a definition of cyberbullying, as previously said, no such definition exists.

Therefore, each academic has a unique cyberbullying definition, resulting in the generation of disparate prevalence rates (Gladden et al., 2014). Scholars have argued for a higher degree of agreement on definitions and metrics (Menesini & Nocentini, 2009).

In conclusion, the data available from various research do not provide a clear picture of whether cyberbullying is increasing or decreasing in prevalence, since it is difficult to establish changes in the prevalence of cyberbullying with such scattered data. Regardless matter how we assess it; its predominance will always frighten us. And, given that research indicates that cyberbullying has a more detrimental effect on victims than traditional bullying (Vivolo-Kantor et al., 2014), it is evident that further study is needed into the impact of cyberbullying on adolescents so that schools, parents, and relevant authorities can focus on the extent to which cyberbullying is harmful to students and actively implement effective countermeasures.

2.4 The impact of cyberbullying on victims

While cyberbullying has similar effects to traditional bullying (Cappadocia et al., 2013), other research indicates that cyberbullying is more destructive and lasts longer (Machmutow et al., 2012). Cyberbullying victims, according to Bonanno & Hymel (2013), are more likely to commit suicide.

Navarro et al. (2015) provide an overview of some of the most serious impacts of cyberbullying on victims:

1. **Physical:** might manifest itself in the form of headaches, stomach pain, sleeplessness, fatigue, loss of appetite, and indigestion, among other symptoms (Sourander et al., 2010).
2. **Psychological and emotional symptoms:** fear, anxiety, anguish, sorrow, stress, and depressive symptoms, as well as recurrent suicide thoughts (Ayas, 2014; Nixon, 2014), and even frequent suicidal ideation (Bauman et al., 2013; Hinduja & Patchin, 2013).
3. **School-related:** may detract from children's desire to attend school and may result in academic performance problems (Willard, 2012).
4. **Psychosocial:** Victims may feel alone and rejected, which may have a detrimental effect on their sense of belonging, positive identity, and self-esteem (Williams, 2007). Additionally, social marginalization is a possibility (Wright & Li, 2013).

As seen before, cyberbullying may have a profoundly harmful impact on its victims. However, Özdemir (2014) points out, not all victims of cyber-harm experience the same level of distress. It varies according to several factors, including gender, the amount and quality of social support received, their age, and the length of their use of electronic communication medium. Brown et al. (2014) report that women who are cyberbullied experience more negative outcomes than men. Therefore, a study of the literature will be done on the relationship between gender and cyberbullying.

2.5 Gender and Cyberbullying

Gendered tendencies in traditional bullying have emerged throughout time, according to Dehue (2013), boys are more prone than girls to engage in bullying., especially direct forms of physical or verbal assault (Griezel et al., 2012; Pereira et al., 2004). Girls have been shown to engage in more indirect hostility (Crick et al., 2002; Owens et al., 2004). According to these findings, direct violence is more male in character, while indirect aggression is more feminine in nature. A variety of reasons, including biology (e.g., girls are physically weaker) and interpersonal interactions (e.g., the social structure of girls' groups), have been proposed to explain this gender disparity (Navarro et al., 2015). Finally, there are gendered socialization variables to consider, such as the fact that adults are less tolerant of girls engaging in direct physical violence, pushing them to engage in more covert and less apparent forms of aggression (Kistner et al., 2010).

These characteristics, along with the results of many studies on gender differences, have resulted in a widespread agreement that females engage in more indirect kinds of violence in the case of traditional bullying (Kowalski et al., 2014). As a result, while examining the incidence of cyberbullying, it is necessary to concentrate on girls. Assuming cyberbullying is a sort of emotional and psychological abuse committed online by the dissemination of rumors or information, in which the attacker breaches the victim's privacy and intimacy while remaining anonymous (Beran & Li, 2007). Unsurprisingly, girls have been the subject of cyberbullying analysis.

However, some studies of cyberbullying have found that gender differences and trends are not coordinated with traditional bullying research (Wong et al., 2015). Extensive research has shown that cyberbullying is more common among boys than among girls. For example, studies from the UK (P. K. Smith et al., 2008), the US (J. Wang et al., 2012) and China (Chen & Chen, 2020) have shown that boys account for a higher proportion of cyberbullying.

However, in contrast to the above literature, several studies show no significant gender differences in cyberbullying. For example, Sun et al. (2016) noted that there were few gender differences in cyberbullying in European and Australian samples. Furthermore,

Chen & Chen (2020) noted that cyberbullying in Hong Kong, Mainland China, and Taiwan noted that gender differences were only present in criminal behavior and not in victimization. Additionally, some research indicates that gender disparities in cyberbullying analysis are dependent on the form of analysis used (Monks et al., 2012).

These contradictory findings may be ascribed to the fact that cyberbullying research is described using a variety of ideas and methodologies (Navarro et al., 2015). For example, different studies have defined cyberbullying differently; they have examined various forms of cyberbullying, such as through cell phones or social media platforms (e.g., Facebook and Twitter); and they have utilized a variety of measurement tools and classification procedures when classifying victims and attackers.

While cyberbullying is increasing in popularity and the research on the subject is expanding, there are still many unresolved issues regarding gender disparities in cyberbullying. Additionally, there is a dearth of research on cyberbullying and gender disparities in mainland China. As a result, more convincing and more comprehensive findings on gender disparities in cyberbullying are required. These findings may aid researchers and educators in developing more effective preventive methods, enhancing children's mental and emotional health, creating a pleasant learning environment, and promoting healthy growth.

Therefore, the following are the research questions for this paper:

1. Do boys and girls have different experiences of cyberbullying?
2. What are the reasons for gender differences?
3. What are school and teachers' gender-specific strategies for cyberbullying?

3. Methodology

Cyberbullying, a new kind of bullying, has gained widespread attention because of the widespread use of the Internet and electronic communication tools in everyday life. Previous analyses tend to focus on the causes and countermeasures of cyberbullying, rather than from the perspective of different groups (such as gender). Therefore, the current literature lacks a comprehensive and systematic study on the group differences,

in particular with regard to the gender of cyberbullying. As mentioned in the literature research section, understanding group differences may be an effective way to improve cyberbullying. Therefore, this dissertation systematically reviews: (1) gender differences in the experience of cyberbullying; (2) reasons for the gender differences; (3) teachers' strategies in addressing cyberbullying and gender-specific bullying, and (4) schools' strategies. A wide range of studies from different countries will be included. This methodology chapter will explain how the systematic review has been conducted. It will cover functions of systematic literature review, the criteria for including studies in the review, search methods for identification of studies, and data gathering and analysis of papers included in the review.

3.1 The general approach: systematic literature review

Systematic review is different from traditional review. The traditional literature review is a comprehensive description of a problem by researchers with their own vision and language based on reading, selecting, comparing, and analyzing the literature. It includes the history, research status, content, research methods, gap, and future research direction of the subject. The traditional literature review is not a repetition and listing of the existing literature, but a critical analysis and comment on the advantages, disadvantages, and contributions of previous studies. In other words, the traditional literature review is the interpretation of the existing literature by researchers according to their own subjective opinions. Traditional literature review is greatly influenced by the author's subjective will, professional level and literature quality. There are no standards for literature evaluation, selection and analysis (Snyder, 2019). Systematic evaluation refers to the application of standard methods to query, select, evaluate and extract data from literature, and drawing comprehensive conclusions (Snyder, 2019). Systematic review, aiming at specific problems, makes a complete and detailed evaluation of the existing literature. It uses standard, and minimum deviation methods to carefully select, evaluate and analyze the existing literature (Purssell & McCrae, 2020). It includes qualitative systematic review and quantitative systematic review. The former will summarize the results of relevant research without combining statistics. The

latter uses statistical methods generally combined with 2 or more research results (Purssell & McCrae, 2020).

3.2 Phenomena of interest

The included literature should report the perpetrators or victims of cyberbullying. The included literature can also only report the gender difference in cyberbullying. At present, there is no unified standard for cyberbullying in different countries, so researchers included in the literature can subjectively judge and identify the behavior of cyberbullying. However, the included literature needs to report the differences between different groups (gender).

3.3 Criteria for considering studies for this review

3.3.1 Determination of keywords through theme analysis

The purpose of this study is to determine the (1) gender differences in the experience of cyberbullying, (2) reasons for the gender differences, (3) teachers' gender-specific strategies for cyberbullying, and (4) schools' strategies through a systematic review. To clarify the classification of "groups" and determine the inclusion criteria of literature and the keywords of retrieval, I first carried out 'subject analysis'. A subject analysis is the most common form of qualitative research. According to the needs of subject indexing and retrieval, it analyzes the content characteristics of documents to extract topics. Specifically, it is a process of refining and selecting the research topic with retrieval significance based on analyzing the subject type and subject structure of literature (Slideshare, 2012). CiteSpace is used for subject analysis. This is an information visualization analysis software led by Drexel University in the United States (Drexel University, 2019). Through the co-occurrence analysis, it can detect and present the research hotspots, cutting-edge topics, and knowledge base in a certain field (Drexel University, 2019). The software helps to obtain a visual view of the evolving relationship between the research frontier in a certain field and the knowledge base and

understand the key context and internal relationship of the knowledge base (Drexel University, 2019).

In the web of Science (WOS) database, I selected SSCI journals published from 2001 to 2016 with “cyberbullying” as the search term. Meanwhile, the disciplines selected by the researchers include education and educational research, education scientific disciplines, and psychology education. After searching and screening, a total of 404 SSCI journal literature were collected. I download and save the basic information of these documents (such as author, title, abstract, and references) in plain text format as the object of knowledge map analysis. Subsequently, I ran CiteSpace software to obtain the keyword co-occurrence knowledge map of English literature in the field of cyberbullying since the 21st century (see Figure 1). The circle size represents the frequency of the corresponding keyword; the larger the keyword font, the stronger the centrality of the corresponding keyword, that is, the greater the probability of cooccurrence of the keyword with other keywords, and the more important the keyword is. Combined with the word frequency data output by the software, it can be found that gender difference is one of the major themes in the research on cyberbullying since the 21st century. The probability of cyberbullying between male and female groups is often compared.

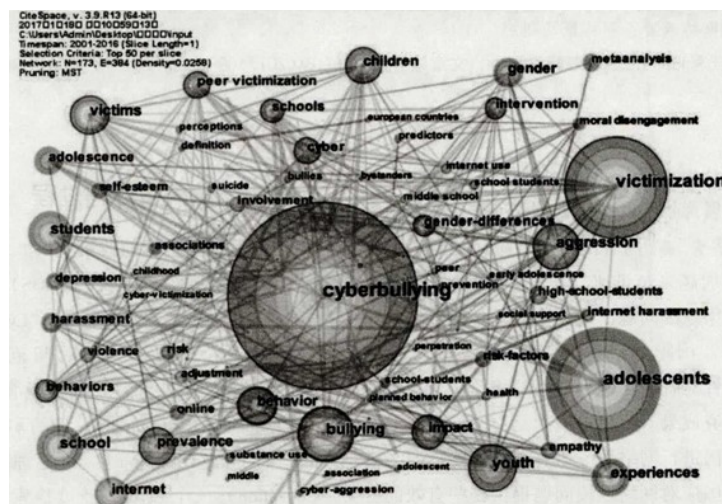


Figure 1 theme analysis result

In addition, word frequency analysis by CiteSpace software also provides me with some important keywords for further literature retrieval. For example, the manifestations of

cyberbullying include cyberbullying and Internet harassment. For another example, the results of word frequency analysis show that there are seven forms of cyberbullying, including emotional control, online harassment, online stalking, online slander, online camouflage, open privacy, and online isolation. The above high-frequency words will be used as an important reference for the author of this dissertation to include in the literature and select search keywords.

Based on the above keyword analysis, I preliminarily determined the scope of literature selection. When selecting the literature, I ensured that the relevant literature is included as widely as possible and that the groups with cognitive experience of cyberbullying are included. Therefore, the selection criteria are as follows.

- (1) The research objects of the literature are groups with cognitive experience of bullying (which means that the research objects have experience of using the Internet).
- (2) The research objects have experienced or seen cyberbullying.
- (3) The researchers surveyed between 2000 and 2021.
- (4) The included literature must provide quantitative results on gender difference, including differences in the number of reports and differences in symptoms.
- (5) The included literature must be written in English.
- (6) The included literature must comply with the ethical norms of voluntariness, anonymity, and youth protection.
- (7) Most of the participants included in the literature must be people over the age of 10. If a few participants are less than 10 years old, the ethics of the practices in the study need to be reviewed.

3.3.2 Study characteristics

The research design of the included literature can be qualitative or quantitative (such as questionnaire survey or individual interview), but the included literature must give

quantitative research results on gender difference and qualitative analysis results on the causes of gender differences. Only academic literature will be included. Non-academic sources are excluded. Literature that does not provide quantitative data on gender differences will be excluded. Meanwhile, the included literature was published from 2000 to 2021. Due to the rapid development of technology, Internet tools related to cyberbullying are also changing with each passing day. Therefore, the time limit of the included literature is to ensure the accuracy of the research results. In addition, all included literature should be in English to avoid language bias and language restrictions (Higgins, 2011).

3.3.3 Participants

To be included in the study, most participants must be people over the age of 10. That is, participants will include adolescents and adults. They may come from Europe, America, and Asia. If a small number of participants in the literature are under the age of 10, the author of this dissertation decides whether to include them. If the author decides to include this literature, the author needs to review whether the practice in the survey of over young groups in this literature is ethical. Participants need to exclude people with special diseases (such as manic disorder, schizophrenic symptoms) and special educational needs.

This study will present as results of gender differences in cyberbullying. Therefore, the inclusion of literature must measure, and report results by gender. Literature that does not provide quantitative findings on gender difference will be excluded. Gender is the most important variable to achieve this study, which makes comparison possible and provides conditions for putting forward targeted measures against cyberbullying.

3.4 Search methods for identification of studies

Five related electronic databases were searched (web of science, EBSCOhost, ProQuest, Cochrane, PsycINFO, and Google Scholar)

Web of science is an influential multidisciplinary index database of academic literature abstracts in the world (Web of Science, 2021). It is a comprehensive academic information resource database, covering most disciplines, including social science, pedagogy, natural science, engineering technology, biomedicine, and other research fields.

EBSCOhost platform is a retrieval platform specially developed for full-text databases by EBSCO company (EBSCO, 2021). Based on this platform, researchers can access most EBSCO literature full-text databases. Through this platform, users may access and explore national economic reports, corporate profiles, industrial data, and market research studies, as well as material from the literature, such as periodicals and books. (EBSCO, 2021). This platform is only applicable to the BSP database. EBSCOhost web search platform can search all databases. Its main databases include academic source Premier (ASP), business source Premier (BSP), Masterfile premier, vocal & career collection, Eric (Educational Resource Information Center), professional development collection, and other databases (EBSCO, 2021). EBSCOhost platform is suitable for vocational educators and multidisciplinary researchers. It provides a variety of very professional high-quality educational journals, including multidisciplinary peerreviewed journals.

ProQuest series database is a database provided by ProQuest Information & Learning company through the ProQuest system, covering business management, humanities, science, medicine, and finance (ProQuest, 2021). As cyberbullying may involve and affect all aspects of life, the broad perspective of this database will be conducive to a comprehensive literature review. It includes more than 18000 micro periodicals in foreign languages, more than 7000 micro newspapers, more than 1.5 million Doctoral / Master's theses, more than 200000 out of print books, and research monographs (ProQuest, 2021). Its fundamental characteristic is that its "bundles" secondary and primary material in order to offer integrated literature acquisition services to end-users (ProQuest, 2021). When accessing abstracts and indexes, users may receive full-text information in real-time (ProQuest, 2021).

PsycINFO of psychology will also be concerned. Cyberbullying is related to the mental health status of individuals and groups. Therefore, it is believed that psychological research will play an important role in this systematic review. As a result, the search engine can locate related content more thoroughly.

Google scholar is mainly used because researchers can search gray literature, that is, unpublished literature. These documents are also important sources of systematic review, which can ensure the integrity and comprehensiveness of the results of the systematic review. And the database is free.

3.4.1 Search strategies

All searches were conducted in October and November 2021. The first search was conducted in early October, the second at the end of October, and the last in early November. According to the inclusion criteria, there are two limitations on the language used and the time period covered. All search strategies are restricted to publications published in English between 2000 and 2021. Each search covers all sorts of publications to reduce the danger of publication bias.

3.4.2 Database

Because cyberbullying can be described in other words, the search was expanded through synonyms. A preliminary search in ProQuest and EBSCOhost was conducted using the two keywords “network” and “bullying”, and 2432 and 543 results respectively were achieved. The author added alternatives such as “Internet bullying” or “electronic bullying” or “cyber violence”. The results in ProQuest and EBSCOhost increased to 6342 and 654 respectively. When the findings are screened, the author found that the search strategy detected the word “victim”. Therefore, it was also added to the search keywords.

Combined with the results of word frequency analysis, the final search formula is: (network or social media or Internet or mobile Internet or MSN (Microsoft Network)

or Facebook or Twitter or WeChat or blog or message or Instagram or electronic or online) and (bullying or bullying or humiliating or slandering or violence or language violence or discrimination or victimization or victim or abuser or offender or harassment). To ensure the integrity of the included literature, the author also looks for potential missing literature by identifying the included literature and systematic evaluation and meta-analysis in the same field. If the clinical trial data report is incomplete or the relevant trial has not been completed, the author will contact the researcher by telephone or e-mail.

When the author search according to keywords and set the start and end time as 2000 to 2021. The final search generated 411 results in Web of Science, 323 results in ProQuest, 301 results in EBSCOhost, 235 results in PsycINFO, and 201 results in Google Scholar, a total of 1471 results.

Table 1 The results of the search of the electronic databases

Database	No. of papers
Web of Science	411
ProQuest	323
EBSCOhost	301
PsycINFO	235
Google Scholar	201
TOTAL	1471

3.5 Data collection and analysis

3.5.1 Selection of studies

In this study, I did the screening and exclusion of literature in accordance with the exclusion criteria, and then extracted and cross-checked the literature independently to confirm the accuracy of the material. The 1471 papers were screened according to the general steps as follows.

(1) One strategy in the selection process is to delete duplicate items, and the other is to search for close literature. In this review, similar studies with small data differences will be regarded as the same studies.

(2) Initially, I inspected the materials acquired from the electronic database, simply skimming the document's title and summary. The screening process is used to exclude items that do not match the review requirements for inclusion.

(3) I downloaded the full text of the study that may meet the requirements and evaluated all the articles that may meet the inclusion criteria.

(4) During the whole screening process, if I am faced with an uncertain decision, discuss with the tutor, and give a solution.

(5) I extract data independently according to the standard data extraction table designed in advance according to the requirements of this study. The data extraction table contains the author's name, publication time, publication journal, country and other basic research information (e.g., age, number, and gender ratio), and research design (e.g., research methods, research time) and results in indicators.

(6) For the literature that cannot obtain the full text, I contacted the platform or authors to obtain access rights. Among the 29 pieces of literature that cannot obtain the full text, the authors of 5 literature provided the full-text version, and the rest were excluded.

3.5.2 Data extraction

I extracted data from all the preliminarily screened literature. After reviewing the literature, I sorted out the extracted data. The research methods and results included in the literature are the focus of data extraction. The data of the following items are extracted and made into excel: country, participant gender, participant age, measurement method of online bullying, technical platform of online bullying, and research results

3.5.3 Missing data

If a data item is missing, it is classified as missing data and is addressed as part of the study's quality evaluation process.

3.5.4 Assessment of study quality

To evaluate the included literature, I used the quality evaluation tools of quantitative and qualitative research. The quality of the included literature was divided into three grades (weak, medium, or strong) according to selection bias, study design, blind method, data collection method and other aspects.

3.5.5 Data synthesis

I made a narrative analysis of the research results. The data of systematic evaluation include narrative analysis and statistical meta-analysis. The first method was used in this study. This study will be summarized mainly by text and text methods to provide overall conclusions (Popay et al., 2006).

3.6 Ethical considerations

The systematic review is the secondary review of the data used in existing literature, so the ethical issues involved in the research presented in the existing literature also need

to be considered in this research. In the field involving people, the key to ethical judgment is to protect the rights of the respondents, including the following.

(1) Protection of personal privacy. The primary principle of research work is to ensure the anonymity of respondents' data, such as name and address because this information might be used for advertising, promotion, and even online fraud (Karimova et al., 2020). Therefore, the promise of anonymity is an important aspect of literature screening.

(2) The investigators are not under stress. The mental stress of the respondents may come from two aspects. On the one hand, it is caused by the investigation itself; on the other hand, the mental stress may be caused by the results of the investigation (Vyse, 2018). However, academic institutions have not given a unified standard for what is "harmful" and "embarrassing" research. This sets a difficult problem for researchers' ethical judgment. Generally speaking, researchers need to inform participants of the purpose of the survey, the purpose of the survey results, and the voluntariness of participation (Vyse, 2018).

(3) The respondents were voluntary. Voluntariness is an important aspect of protecting public interests (Karimova et al., 2020). The specification also states that researchers should firmly believe that they need to create an honest and positive research experience for participants (Vyse, 2018).

I must respect the authorship of the authors whose literature this dissertation is reviewing. This means I must make sure that this dissertation references the literature correctly and present the authors' research correctly and respectfully.

In addition, because the research on this subject may involve teenagers, the protection of adolescents is also an ethical issue to be considered in the screening of literature in this systematic review.

4. Results

4.1 Results of the search

I identified 1471 articles by searching in a web of science, EBSCOhost, ProQuest, and Google Scholar. A total of 245 articles were excluded due to complete repetition. Since the majority of the articles picked did not match the inclusion requirements, 536 articles were evaluated as qualified. Some of the most common exclusion reasons are:

- (1) the study did not report the group differences of cyberbullying (gender group).
- (2) The age of subjects did not meet the inclusion criteria.

Furthermore, 23 articles were excluded due to a lack of full-text availability. The final literature included in the study was 13. Figure 2 shows the screening process.

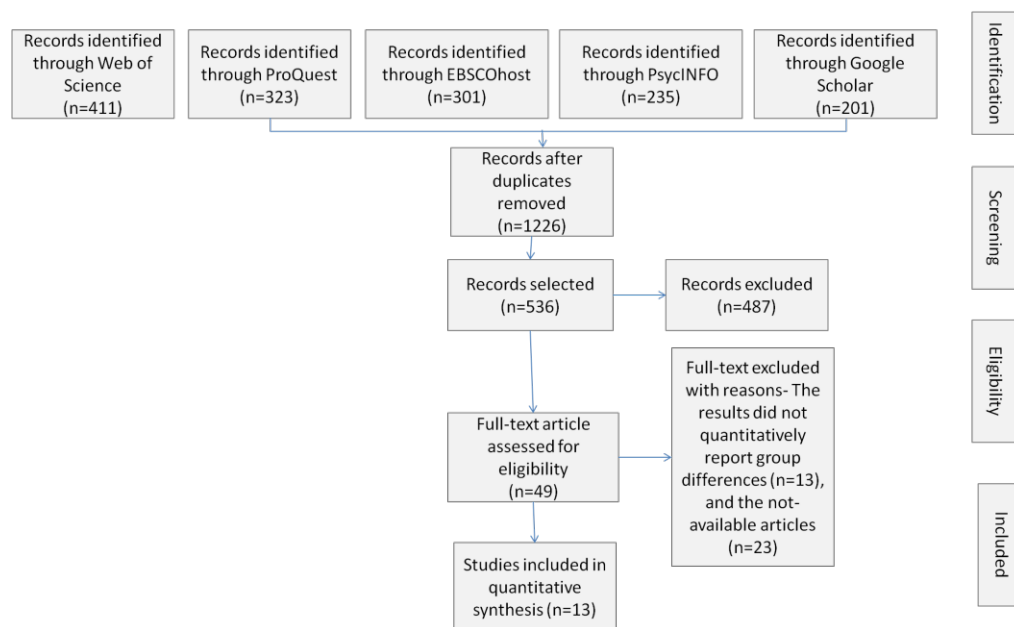


Figure 2 Screening flow chart

4.2 Included studies

Although the number of included literatures is limited, the data come from a variety of nations. The age of participants ranged from 9 to 24, so the education level of participants varied. In most studies, the gender distribution is relatively uniform, except that in the sample of O'Moore (2012), there are many more boys than girls, 66.4% and 33.6% respectively.

The included studies used different methods to investigate cyberbullying. Two studies supplemented the questionnaire through face-to-face interviews (Görzig & Frumkin, 2013; O’Neill & Dinh, 2015). Others used questionnaires. Most participants have experienced cyberbullying twice or more. The appendix provides the complete list of these 13 articles used in this systematic review.

These included studies that did not assess or report participants’ mental illness (such as ADHD, depression, and other mental symptoms), which may affect the results of this study.

In addition, the definitions of cyberbullying in these included pieces of literature are different, which will also affect the results of this dissertation. For example, in Gradinger et al. (2012)’s research, the forms of cyberbullying include photographing victims through mobile phones, sending insulting information through phone/SMS (Short Message Service)/IM (Instant Messaging), and publishing offensive remarks on social platforms. In Calvete et al. (2016)’s research, cyberbullying was subdivided into verbal insult/threat via telephone, sending insult/threat information via IM, improperly disclosing/forwarding other people’s information, making sexual hints/other humiliating pictures, and spreading rumors. In the research conducted in the United States, cyberbullying also involves inappropriate language and stereotypes in terms of race and color, which are not mentioned in other literature (Morgan, 2013; Pelfrey Jr & Weber, 2015). Since there is no unified definition of cyberbullying in the world, the authors included in the literature researched according to subjective judgment and local standards.

4.3 Study quality in included studies

The quantitative research quality assessment tool was used to evaluate the research quality of all included studies. The evaluation found that none of the studies was of high quality, twelve were of medium quality and one was of poor quality. Gradinger et al. (2012) found that the risk of selection bias was higher because the response rate measured for the first time was less than 60%, and the remaining studies were of

medium quality. Only three studies were included in the follow-up. Two studies have less than 60% participation in follow-up measures, which had a negative impact on the quality of each study (Festl & Quandt, 2016; Gradinger et al., 2012).

4.4 Data and analysis

Table 2 shows the data extracted by the researchers from the included literature.

There is no unified definition of cyberbullying in various countries; each included literature work also adopts different measurement methods for cyberbullying.

Table 2 Data extracted from the included literature

Literature, country	Participants	Results	Age	Quality
Bhat (2008), USA	N=465 Male: 243 Female: 222	Victim M: 43% F: 54% Bully: M: 58% F: 34%	15-24	Moderate
Snakenborg, Van Acker & Gable (2011), USA	N=342 M=132 F=210	Victim M: 33% F: 38	14-20	Moderate

Morgan (2013), USA	N=286 M=99 F=187	Victim M: 54% F: 46%	9-14	Moderate
Pelfrey & Weber (2015), USA	N=314 M=103 F=211	Victim M: 77% F: 23%	12-24	Moderate
Almeida et al. (2012), Portugal	N=1751 M=822 (47.5%) F=907 (52.5%)	Victim M: 32% F: 36%	11-20	Moderate

	(22 missing cases)	Bully M: 57% F: 25%		
Calvete et al. (2016), Spain	N=1015 M=417 F=588 (10 participants' gender unknown)	Victim: M: 1.67% F: 25.4% Bully M: 1.4% F: 0.2%	14-18 Mean=15.43(±1. 09)	Moderate

Festl & Quandt (2016), Germany	<p>The first test:</p> <p>N=3515</p> <p>F=56%</p> <p>The second test (test the same participants after 1 year):</p> <p>N=1817</p> <p>F=1006</p> <p>M=805</p>	<p>The first test:</p> <p>Victim:</p> <p>M: 27%</p> <p>F: 22%</p> <p>Bully:</p> <p>M: 37%</p> <p>F: 19%</p> <p>The second test:</p> <p>Victim:</p>	13-17	Moderate
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		<p>M: 37%</p> <p>F: 21%</p> <p>Bully:</p> <p>M: 25%</p> <p>F: 21%</p>		
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Gradinge et al. (2012), Australia	N=323	Victim: M: 15%: F: 23% Bully: M: 52% F: 69%	10-13	Moderate
Gorzig & Frumkin (2013), 25 European countries	N=1300 F=768	Victim: M: 41% F: 59%	9-16 (M=13.23 , ±2.09)	Weak
O'Moore (2012), Ireland	N=3004 F=1009 (33.6%) M=1995 (66.4%)	Victim: M: 20.3% F: 24.7% Bully: M: 1.5%	12-16	Moderate
		F: 0.5%		

O'Neill & Dinh (2015), 7 European countries	N=721	Victim: N=7% Male: 6% Female: 8% Bully: N=12% Male: 8% Female: 15%	9-16	Moderate
Batool et al. (2017), Pakistan	N=255	Victim: M: 15.27% F: 17.28% Bully: M: 25.32% F: 14.53%	15-24	Moderate
Beale & Hall (2015), USA	N=198 M:43 F:155	Victim M: 36% F: 43%	10-13	Moderate

4.4.1 Gender differences of the victim

Most of the included studies show that girls are more vulnerable than boys (Almeida et al., 2012; Calvete et al., 2016; Görzig & Frumkin, 2013; Gradinger et al., 2012; O'Moore, 2012; O'Neill & Dinh, 2015; Snakenborg et al., 2011). Among Irish

adolescents, 24.7% of girls and 20.3% of boys experienced cyberbullying (O'Moore, 2012). In Portugal, Europe, and the USA, similar gender patterns were found.

On the contrary, a few studies have shown that boys are more vulnerable to cyberbullying (Bhat, 2008; Festl & Quandt, 2016; Morgan, 2013). In the German sample investigated by Festl & Quandt (2016), the researchers conducted the first survey on teenagers aged 13-17 and the second survey on the same group of participants a year later. In both measurements, boys were more likely than girls to report the experience of victims of cyberbullying. In the first measurement, boys reported victimization at a rate of 27%, while girls reported victimization at a rate of 22%. During follow-up, the gender difference was more significant, the percentage of boys increased to 37% and the percentage of girls is 21%. According to the survey of American high school students, 80% of male students said they would be bullied by the internet almost every day (Bhat, 2008; Morgan, 2013).

4.4.2 Gender differences in bullies

The included literature also studied the gender differences of online abusers (Almeida et al., 2012; Batool et al., 2017; Festl & Quandt, 2016).

According to Batool et al. (2017)'s survey, bullying is prevalent among boys, while the proportion of girls involved in bullying seems lower. Festl & Quandt (2016) also conducted research from the perspective of gender and found that girls and boys have differences not only in online communication, but also in online bullying. In addition to the time spent using the Internet, the specific types of activities that teenagers participate in through the Internet are also related to online bullying. Nowadays, most teenagers can access the Internet anytime, but there are differences in usage patterns and preferences between boys and girls. For example, girls prefer to publish photos through Instagram and contact friends through SMS; boys hold more game equipment (Festl & Quandt, 2016). This contributes to answering the research question about where the gender differences come from. Festl & Quandt (2016) conducted a two-wave group survey of 1817 teenagers aged 13 to 17 and found that the causes for girls'

involvement in cyberbullying may be linked back to their increased involvement in online social activities and increased communication with strangers. On the contrary, for boys, exposure to more anti-social media content is related to a higher degree of cyberbullying participation over time. Victimization experiences are more likely to enhance girls' criminal behavior than boys (Festl & Quandt, 2016). The gender comparison also reveals the related impact of education, because boys with lower education are more strongly involved in cyberbullying; Female abusers have greater educational attainment. (Festl & Quandt, 2016).

Almeida et al. (2012)'s research (2012) shows that, regardless of the age group or form of bullying, girls were more likely than boys to be victims of cyberbullying. On the other side, they discovered that boys are more inclined to engage in cyberbullying on behalf of their bullied peers (Almeida et al., 2012).

4.4.3 Gender differences in acceptance of cyberbullying

In a study of Irish teenagers, O'Moore (2012) found that less than half of the students (47% of girls and 43% of boys) believed that cyberbullying was wrong. Girls (25.2%) were more disturbed by cyberbullying than boys (14.2%). Boys (10.9%) think it is acceptable and a part of life more than girls (1.6%). Only 47% of girls and 43% of boys believe that cyberbullying is wrong, which further proves that it is necessary to develop prevention and intervention plans to deal with cyberbullying to break the false perception that "cyberbullying is a normal part of life".

4.4.4 Gender differences in the impact of cyberbullying

Batool et al. (2017) believes that there were no such studies that described the impact of cyberbullying on Pakistani youth previously. Therefore, Batool et al. (2017) conducted a report on cyberbullying among Pakistani youth. His report points out that gender is an important and considerable variable when researching the impact of cyberbullying. Compared with boys, cyberbullying has a greater impact on girls' emotions and study (Batool et al., 2017). Most female respondents replied that

cyberbullying would affect emotion and study, while most male respondents were rarely affected by emotional and academic cyberbullying (Batool et al., 2017).

Calvete et al. (2016) conducted three tests on 1015 adolescents in education centers in Spain at an interval of six months to compare the relationship between boys and girls in cyberbullying victimization, schema, body image, and depression, to find out patterns of evolution and transmission from cyberbullying to depression. Calvete et al. (2016) found that girls who suffered from cyberbullying had a higher rate of depression (7.12% of girls and 4.74% of boys). Most female respondents replied that cyberbullying will affect emotion and study, while most male respondents are rarely affected by emotional and academic cyberbullying. Most girls believe that cyberbullying will damage their relationships, while male respondents remain neutral. The difference in the degree of cyberbullying influence between boys and girls may be related to two reasons. First, this could be because of norms and values around masculinity: that is boys are affected but they do not admit it (to themselves) because as males they have to show that they are strong. Given this situation, when schools and teachers implement measures to reduce cyberbullying and help bullied students, they especially need to change boys' views on masculinity and encourage them to bravely report their experience of cyberbullying. Second, this may be related to the fact that girls pay more attention to body image. The change of understanding of body image is the intermediary of depression after girls encounter cyberbullying because, in society, women pay more attention to body image and acceptance of their appearance. This is particularly important in adolescence because teenagers attach great importance to their body image. Through constant insults and humiliations on the Internet, victims may have a negative view of themselves and think they are flawed and ridiculous people.

4.4.5 Gender differences in forms of bullying

Batool et al. (2017) pointed out that boys usually bully others through the body or humiliating image, while girls tend to use more hidden ways to implement cyberbullying (such as rumors). Both O'Moore (2012) and O'Neill & Dinh (2015) have

shown that cameras or video clips are a form of bullying those girls encounter less, which may be related to boys' preference for scientific and technological products; this is also related to the fact that boys tend to bully online by humiliating their image.

Calvete et al. (2016) reported that boys and girls suffer from similar forms of cyberbullying. The most common forms of bullying suffered by boys and girls are “embarrassing jokes and rumors”; followed by “threatening or insulting information” and “revealing pictures”.

4.4.6 Gender differences in response to cyberbullying

The study of O'Moore (2012) shows that boys and girls have different ways to respond to cyberbullying. Compared with boys, when confronted with cyberbullying, girls will boldly urge bullies to stop and will seek further social support from family and friends. Fewer boys responded passively; when responding, they often fight (physically). Moreover, boys they are less likely to seek assistance from friends, school authorities, or parents when they are bullied. It is because of the lack of social support that students are easy to fall into the risk of depression, self-mutilation, and suicide. Physicians' perspectives point out that men are more likely to seek help for specific technical problems than for health problems (Tudiver & Talbot, 1999). At the same time, seeking support means recognizing vulnerability and helplessness, which is inconsistent with men's understanding of their social role (Tudiver & Talbot, 1999).

5. Discussion

The purpose of this chapter is to further discuss the findings in the previous paper and respond to the research questions of this paper. This chapter will first explore the different reasons why different genders encounter cyberbullying and the different effects of cyberbullying on different genders. On this basis, this chapter will put forward targeted strategies for schools and teachers to reduce cyberbullying and help bullied teenagers.

5.1 Gender differences in the experience of cyberbullying

Most of the included studies show that girls are more likely to be victims of cyber bullying (Almeida et al., 2012; Calvete et al., 2016; Görzig & Frumkin, 2013; Gradinger et al., 2012; O'Moore, 2012; O'Neill & Dinh, 2015; Snakenborg et al., 2011). Batool et al. (2017) points out that, boys usually bully others through physical or humiliating images, while girls tend to use more covert ways to bully online (such as rumors).

Boys and girls have similarities and differences in participating in cyberbullying. First of all, regardless of gender, persons who are bullies often are also victims (Livingstone et al., 2011). The result of the change of victims' cognition is that they may become bullies. The EU online survey on children also shows that there is a certain degree of overlap between victims and bullies (Livingstone et al., 2011). Second, female victims of cyberbullying are more likely to become bullies.

5.2 Reasons for the gender differences

5.2.1 The gender difference of cyberbullying is related to internet use habits

Notten & Nikken (2016) confirmed that the gender difference of cyberbullying can be explained in part by the varied internet use habits of boys and girls. To begin, individuals who use the internet on mobile devices, regardless of gender, are more likely to be bullied through the device (Notten & Nikken, 2016). Teenagers bullied through SNS (Social Network Services) are 1.48 times more likely to be bullied than those in other places, and teenagers bullied through IM are 1.91 times more likely to be bullied online by mobile phones than those in other places (Ortega et al., 2009). As a result of the rising usage of social networking sites, girls, and individuals who often use the internet are more likely to be victims of cyberbullying (Ortega et al., 2009).

Some studies have found that the frequency of mobile internet use is associated with a higher risk of cyberbullying (Calvete et al., 2016; Festl & Quandt, 2016; Walrave & Heirman, 2011). For example, Calvete et al. (2016) used data from 25 European

countries and investigate the differences between adolescents who were bullied online and on mobile phones; the results found that the difference lies in the use rate. Bullying through SNS and IM is more likely, although these are not all channels of cyberbullying (Görzig & Frumkin, 2013). Cyberbullying may take on a variety of forms, including the sending of irrelevant, insulting, or threatening messages and the spreading rumors. All these forms are related to social networking. Festl & Quandt (2016) confirmed the intensive use of social websites by both groups of cyberbullies and victims and believed that the extensive use of social networks is regarded as a risk factor for the implementation of cyberbullying. Sticca et al. (2013) also found that a higher frequency of online social activities predicted a higher frequency of cyberbullying after 6 months.

Some studies have focused on the correlation between online communication risk behavior and cyberbullying (Sticca et al., 2013). Chen et al. (2016) confirmed that higher risk and frequency of information and communication technology use are important predictors of cyberbullying behavior and victimization (e.g., chatting with strangers online). Increased public disclosure of personal information is seen as a critical approach for creating connections in an online context (Valkenburg & Peter, 2011). Although adolescents are aware of the risks that disclosure of personal information and online interaction with strangers may bring (usually referred to as cyberbullying), the expected benefits often outweigh these concerns (Krasnova et al., 2010). On the other hand, higher levels of privacy disclosure may also be abused, especially when the relationship is interrupted or terminated. Personal information or images may be altered and sent to others to create true bullying material. Some teenagers also have online contact with strangers (Krasnova et al., 2010). For some teenagers, contact with strangers may also reflect seeking adventure and violating parents' control (Krasnova et al., 2010).

Additionally, Barlett & Coyne (2014) also discovered that the association between gender and participation is substantially influenced by respondents' ages. Throughout early adolescence, female teens are more likely to be victims of cyberbullying, but male perpetrators are more prominent by late adolescence. As mentioned above, girls use the

internet to deal with relationships earlier. According to the study of Den Hamer et al. (2014), with the increase of age and internet use experience, boys' exposure to antisocial and violent content also increases. The increase of exposure to content containing antisocial and dangerous behavior is also related to the increase of cyberbullying, especially among boys (Den Hamer et al., 2014). Teenagers who like anti-social content may interact more frequently on the internet, and they are more likely to become victims themselves (Den Hamer et al., 2014). According to the social cognitive theory, people will observe the surrounding reference groups, form their understanding, and seek identity by adjusting their behavior (Den Hamer et al., 2014). Teenagers especially tend to seek attractive role models in the media environment (Gauntlett, 2008). For some teenagers, some antisocial and violent content may be an example of behavior. Teenagers will try to break through restrictions to form a personal identity, show independence, and enhance peer identity (Gauntlett, 2008). Sasson & Mesch (2014) confirmed that male teenagers are more interested in sending insulting messages, meeting strangers, and other dangerous online behaviors.

5.2.2 Cyberbullying of girls is specially related to online social networking/pursuit of appearance

Girls start using the internet as a social strategy earlier, which is a way for them to position themselves and manipulate peer relationships (Festl & Quandt, 2016). From a development perspective, girls will experience more external problem behaviors (For example, love problems and maladjustment to adolescent physical changes), which urges them to start using the internet to deal with social relations as soon as possible (Lenhart et al., 2015). They pay more attention to social connections and friendships developed through the internet than boys (Festl & Quandt, 2016). More online social activities also increase the possibility of girls participating in cyberbullying (Festl & Quandt, 2016). Relationship attacks observed in cyberbullying often occur through SNS, which is more prevalent among girls (P. K. Smith et al., 2008). With the popularity of SNS on mobile devices, girls' exposure to cyberbullying through mobile devices is predicted to rise (P. K. Smith et al., 2008). Similar to traditional bullying, cyberbullying

is a deliberate and repeated behavior aimed at individuals with lower power (Olweus, 1993), which is consistent with girls' expectation of manipulating their peers through the development of social relations (Festl & Quandt, 2016). Walrave & Heirman (2011)'s study also shows that after experiencing their harm, girls seem to be more inclined to take cyberbullying as a behavior strategy; they are both perpetrators and victims. In summary, frequent Internet use not only increases girls' vulnerability but also promotes their experimental behavior, increasing the likelihood of committing cyberbullying.

O'Moore (2012) pointed out that girls' pursuit and competition for a perfect ideal shape are important factors for their injury from cyberbullying. The three most common forms of cyberbullying are telephone, SMS, and instant messaging; and most of these bullying behaviors attack their appearance (O'Moore, 2012). The possible explanation may be that girls frequently disclose their pictures or videos. Online technology enables people to break through the boundaries of private and public life. Individual photographs that have been published or provided for a variety of purposes may be abused by others.

This finding usually emphasizes that teenagers need to use the internet more carefully when communicating with others. The image people display on social networking sites is often based on the image they expect to shape. It is this motivation to create a beautiful image that puzzles girls. Only 25% of girls said they were not bothered by body image attacks on social media (Calvete et al., 2016). More boys (32%) said they were not troubled, which may be related to boys' not paying too much attention to their appearance (Calvete et al., 2016).

5.3 Teachers' strategies in addressing cyberbullying and gender specific bullying

Immediacy is the mechanism by which cyberbullying can bring greater psychological distress, which requires teachers to pay attention to students' well-being (Walrave & Heirman, 2011). Compared with bullying, cyberbullying is more convenient; and many times, bullies can escape punishment. This makes cyberbullying more aggressive than offline bullying (Walrave & Heirman, 2011). Moreover, social networks and instant

messaging, which can be used anytime, anywhere, and everywhere, lead to cyberbullying accompanied by victims all day (Cross et al., 2009). Generally, interpersonal relationships established through social networking sites or IM will lead to more attacks on these platforms due to the cluster effect (Sasson & Mesch, 2014). Cluster effect means that compared with individuals, group aggregation is more prone to emotional tendency, produces irrational polarization behavior, and causes social influence beyond the reach of individuals (Sasson & Mesch, 2014). Conflicts between teenagers and their peers may occur on the internet. The emergence of the internet makes daily life relationships closer, so peer interaction may expose hostility in relationships and evolve into cyberbullying (Cross et al., 2009).

For teachers, timely intervene is important to improve teenagers' cognition, and to break the cycle of mutual network bullying. Calvete et al. (2016)'s research showed that there is a transmission mechanism for the further evolution from violence to depression, which means that timely intervention is very important. The findings of this study give critical information for developing preventative strategies and interventions.

In this regard, some scholars have developed a variety of pilot plans and shown their effectiveness (Garaigordobil & Martínez-Valderrey, 2015).

Analyzing the factors that contribute to cyberbullying is a vital first step toward mitigating the effect of cyberbullying on victims' mental health (Calvete et al., 2016). Teenagers' cognition of themselves is an important variable from cyberbullying to emotional distress, which is very important. These findings have practical significance for guiding victims' psychological intervention and preventing the persistence of depression from adolescence to adulthood. Victim intervention should address the cognitive changes that occur because of victimization and assist victims in developing a positive perspective of themselves and trust in others. Given the importance of body image, these strategies should contain aspects that promote self-acceptance. These interventions may also extend to half of the bullying interventions in reality, because offline victimization and cyberbullying have some common characteristics, such as humiliating the victim and criticizing his / her body (Calvete et al., 2016). In addition, as mentioned above, victims of cyberbullying tend to evolve into bullies. Those

cyberbullies themselves are often bullied by the Internet (Görzig & Frumkin, 2013). Teachers, parents, and society should improve teenagers' awareness of the consequences of themselves and others, which may be a means to break the cycle of mutual cyberbullying.

5.4 Schools' strategies

Due to the rising use of the internet and mobile phones, the consequences of bullying are more complicated, necessitating schools to regulate students' network use (P. K. Smith et al., 2008). Bullying in the traditional sense may result in a slew of issues, including social challenges, physical health concerns, and suicide thoughts (Kim et al., 2005). In some cases, cyberbullying can exacerbate these consequences. For example, cyberbullying has been shown to increase the prevalence of depression and other poor mental health symptoms, as well as to elicit more unpleasant feelings than conventional bullying (Gradinger et al., 2012).

Cyberbullying may change teenagers' cognition of themselves, which has a great impact on teenagers and requires the school to particularly pay attention to adolescent self-cognition education. Calvete et al. (2016) investigated how cyberbullying contributes to the development or worsening of depression symptoms. The findings show that the victimization experience through new technology will have a profound impact on teenagers' cognition. They begin to distrust others and believe that this bullying is intentional harm, which will lead to the isolation of the victims. In addition, victims see themselves as flawed (Calvete et al., 2016). This negative perspective is mostly focused on body image. Victims' attitudes toward their bodies are becoming progressively unfavorable. This is important since the importance placed on one's body image is sometimes viewed as a primary reference point for teenage self-esteem (Bucchianeri et al., 2013). Furthermore, cyberbullying can lead to the degradation of personality characteristics, such as decreased self-esteem, emotional alienation, low academic attendance, poor academic performance, and weakening the ability to establish relationships (Kowalski et al., 2014). For example, schools should arrange courses on

Teenagers' perception of their image in their daily itinerary. At the same time, it is also mentioned above that boys may be less inclined to report cyberbullying and seek help. Therefore, schools should encourage students to actively seek help through the setting of relevant systems (such as changing boys' views on masculinity).

6. Conclusion

With the rise of the internet throughout the years, many individuals utilize it virtually every day (Chisholm, 2014). While the internet has facilitated the transmission of information, it may also be used to propagate bad behaviors such as cyberbullying. The present analysis investigated available information to ascertain the extent to which gender plays a role in cyberbullying.

To begin, the findings related to the published statistics indicate that girls are more likely than boys to be victims of cyberbullying. On the other hand, the findings show a degree of overlap between victims and bullies (Livingstone et al., 2011). Female cyberbullying victims are more likely to be perpetrators. Second, the reasons for gender disparities in cyberbullying may be explained in part by the fact that boys and girls utilize the Internet differently, with cyberbullying being especially related to active involvement in online socializing and aiming for appearance among girls. Thirdly, the researchers discovered that teachers should act promptly to address the cognitive changes experienced by victims because of their victimization and to assist them in developing a positive picture of themselves and trust in others. Fourthly, schools must place a premium on teaching teenagers about their self-perceptions, including how females should see their outer appearance and how guys should perceive the substance of violence.

6.1 Implications for practice

This research has various implications for management and policy about young people, notably for school administrators, teachers, and parents. To begin, our results identify critical factors for cyberbullying perpetration that school authorities, teachers, and

parents should be attentive to. They may therefore strategically plan and distribute preventative and intervention resources based on gender-specific pupils' behavioral patterns. For instance, girls may be educated about their perceptions of external appearances to limit their exposure to cyberbullying victimization. Counseling services may also be directed towards male students to urge them to seek treatment for their negative emotions.

Second, Whittaker & Kowalski (2015) suggest that as internet technology grows more popular and established, it may also signal a greater danger of abuse. As a result, educational activities should be planned and conducted to raise students' understanding of the Internet's advantages, digital literacy, appropriate online behaviors, and cybercrime. Raising understanding of the technology of cyberbullying will also assist teenagers (especially girls) in comprehending the negative effects of cyberbullying, hence reducing its prevalence.

6.2 Implications for the research

At the core of this research, which examines gender disparities in cyberbullying and its causes, A review of the available information found that girls are more likely than boys to be victims of cyberbullying and that there is a degree of overlap between victims and cyber bullies. For many years, the study area has been split about the role of gender, and the findings cannot be generalized broadly owing to the limited number of studies included. This review, however, is pertinent and has implications for future research. Due to the inadequacy of past research on the causes of gender disparities in cyberbullying, it is critical to summary what we do know before going further. This also shows that we may need to do further research.

It's worth mentioning that the study area has produced a diverse variety of definitions and metrics of cyberbullying, although the content is often conflicting. As a result, I believe that making comparisons and drawing inferences from research findings is very challenging, particularly as new kinds of cyberbullying emerge and evolve through time

and across the internet. As a result, further research may provide a precise and unambiguous definition of cyberbullying.

6.3 Limitations

As is the case with much previous research, this review has certain limitations. To begin, some specified inclusion criteria may have resulted in a reduction in the number of entries found. All research conducted after 2000 has to be published and written in English to be included in the review. This may have resulted in the disqualification of research on gender differences in cyberbullying that were otherwise eligible. Second, the fact that the review was conducted by a single individual may be seen as a drawback, since all choices made throughout the process were made by a single individual. There is a concern of unintentional subjectivity in the choice to include or exclude research. Thirdly, this study's review focused only on teens. Although cyberbullying has a significant effect on teenage development, future research might focus on a broader population, such as university students and adults. This increases the generalizability of the present research outcome. Fourth, although this research focused on the impact of gender in cyberbullying, future research should examine other differences that may affect the development of cyberbullying behaviors. Finally, this research addressed cyberbullying throughout the Internet, and future research may focus on cyberbullying in particular electronic media.

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Appendix A

Overview of included literature

No.	Author (year), country	Title	Journal
1	Almeida et al. (2012), Portugal	Virtual but not less real: A study of cyberbullying and its relations to moral disengagement and empathy	Wiley-Blackwell
2	Calvete et al. (2016), Spain	Cyberbullying victimization and depression in adolescents: The mediating role of body image and cognitive schemas in a one-year prospective study	European Journal on Criminal Policy and Research
3	Festl & Quandt (2016), Germany	The role of online communication in long-term cyberbullying involvement among girls and boys	Journal of Youth and Adolescence
4	Gradinger et al. (2012), Australia	Cyber-victimization and popularity in early adolescence: Stability and predictive associations	European Journal of Developmental Psychology
5	Gorzig & Frumkin (2013), 25 European countries	Cyberbullying experiences on-the-go: When social media can become distressing	Cyberpsychology

6	O'Moore (2012), Ireland	Cyberbullying: The situation in Ireland	Pastoral Care in Education
7	O'Neill & Dinh (2015)	Mobile technologies and the incidence of cyber bullying in seven European countries: Findings from net children go mobile	Societies
8	Bhat (2008), USA	Cyberbullying: Overview and strategies for school counsellors, guidance officers, and all school person	Australian Journal of Guidance and Counselling
9	Snakenborg, Van Acker & Gable (2011), USA	Cyberbullying: Prevention and intervention to protect our children and youth	Preventing School Failure : Alterative Education for Children and Youth
10	Morgan (2013), USA	Malicious use of technology: what schools, parents , and teachers can do to prevent cyberbullying	Childhood education
11	Pelfrey & Weber (2015), USA	Student and School Staff Strategies to Combat Cyberbullying in an Urban Student Population	Preventing School Failure: Alterative Education for Children and Youth

12	Batool et al. (2017), Pakistan	Bullying in social media: an effect of study of cyberbullying on the youth	Pakistan Journal of Criminology
13	Beale & Hall (2007), USA	Cyberbullying: What school administrators (and parents) can do	The Clearing House: A Journal of Educational Strategies, Issues, and Ideas

Appendix B

Ethics form