# Cyberbullying: concepts, dynamics, characters and health implications

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> **Abstract** The study aimed to conduct a critical review of a set of bibliographical reviews to identify how the scientific community understands cyberbullying, how the phenomenon has been conceptualized, how its dynamics have been described, what characters are identified and what associations are related to the health of intimidated persons and perpetrators. The literature has shown that there is no consensus on the concept of cyberbullying, but there are arguments that advocate its specificity and differentiation visà-vis bullying, (it can occur at any moment and without a physically demarcated space; it can be disseminated globally, the length of permanence of the offensive posts is undetermined). As for the gender issue associated with this practice, a reductionist bias was observed in the debate, indicating differences based on an alleged technological superiority of boys. The reviewed studies show that both victims and those who practice cyberbullying undergo negative experiences in their psychological and behavioral health, where school dropout may also occur, along with social isolation, depression, suicidal ideation and suicide. However, there is hardly any questioning about cyberculture and how it establishes new socialities – knowledge and debate crucial to understanding the phenomenon. Key words Cyberbullying, Violence, Social

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### Introduction

Cyberbullying is a new form of systematic violence that is a "social problem", and is a subject and concern of several disciplinary fields, besides being portrayed by some authors as a public health issue<sup>1-5</sup>. The different configurations of cyberbullying can be recognized as acts of psychological and systematic violence against children and adolescents perpetrated in the ambiances of digital sociability networks and can occur at any time and without a circumscribed and physically demarcated space. This type of aggression is perpetrated by electronic means, whether by text messages, photos, audios or videos, expressed in social networks or in network games, transmitted by cell phones, tablets or computers and whose content is intended to cause harm to another individual in a repetitive and hostile way, as per Ortega, et al. apud Brochado et al.6.

Cyberbullying has recently emerged and its conceptualization is still under construction and harbors considerable polysemy in its definitions<sup>7-10</sup>. Research points out that this conceptual diversity has sometimes led scholars to use different terms to refer to the same concept or use the same term with different meanings<sup>11,12</sup> (Ybarra et al., apud Lucas-Molina et al.<sup>13</sup>).

It is noted that violence is also manifested in this new space called "cyberspace", that is, in this "place" of interaction that occurs in the context of a particular culture, known as "cyber" culture or cyberculture. It is worth pointing out that some authors question whether the concept of cyberculture would still be valid, given the blurred boundaries, considering that digital relationships ubiquitously traverse daily life<sup>14</sup>.

The term sociability, coined by Mafessoli<sup>15</sup>, refers to habits, customs and a kind of politeness present in the contemporary world. Digital sociality produces an ethos that generates the need to build a positive social image. What is posted on the net, the way one is seen in this environment or the masks that are built on oneself in this space value this theatricality from what one wants or allows others to see15. For developing children and adolescents, this in-progress identity can be significantly influenced by the standards imposed by the network. The need to "be connected", being always seen by others, has been enhanced with every new update that social networking applications generate, creating and forcing new sharing experiences for their digital users. Bruno<sup>16</sup> will reflect on the relevance of the other's viewpoint to set the self-image, an image engendered in the perspective of a show that contributes to the construction of self-esteem marked by one's popularity in social networks. It can be seen from Bruno's reflection<sup>16</sup> that the bonds established do not necessarily have to be strong to influence social networks. Sometimes those who most "like" and comment on digital content are people whose social ties are "weak ties". Another feature is the flow of these relationships, because much in the same way that new connections are established, people's exclusions and blocking can occur without proper motives<sup>17</sup>.

In speaking about the "social reality of internet's virtuality", Castells<sup>18</sup> affirms that the internet was appropriated by social practice in all its diversity, although it has specific effects on such practices. It addresses how people behave in the virtual environment as they expect to be seen by others. For example, young people are in the process of discovering their identity and finding out who they are or would like to be.

Digital relationships redefine contemporary social dynamics, inviting individuals to be always connected through new technologies, regardless of geolocation, time and number of people with whom they are linked. A striking feature of digital sociability is hypervisibility<sup>19</sup>, a constant and voluntary display of daily, intimate facts and acts. The private starts to be publicized when it is shared real-time in this world of instant information<sup>20</sup>.

Young, "digital natives" 16 are increasingly connected to digital social networks through ICTs. According to the National Household Sample Survey (PNAD)<sup>21</sup>, in Brazil, approximately 102.1 million people aged 10 years or older had access to the internet in the survey period. In 2015, year of the survey, regarding age groups, it was observed that adolescents aged 15-17 years, as well as those aged 18-19 years had the highest percentage of Internet users (82% and 82.9%, respectively). Brunnet et al.<sup>22</sup> point to an American study that describes that, on average, 93% of adolescents aged 12-17 years access the internet, and 75% of them have their cell phone.

Internet use, especially of social networks, favors the practice of violations ranging from account violation in social networking sites, the creation of fake profiles for provocation, threats and even invitations to commit suicide by clandestine sites or communities<sup>23</sup>.

Thus, cyberbullying is a type of violence that has been widespread and has been included in the discursive field of health from the associations between its practice and the harmful outcomes to the health of perpetrators and bullied<sup>24</sup>. A study of the medical literature has found that using the Internet for more than three hours a day increases fourfold the probability of a young person being targeted for cyberbullying<sup>25</sup>. Although associated with the topic of bullying, more theoretically consolidated, cyberbullying has received much attention from the international scientific community, but is poorly studied in Brazil.

This paper aims to analyze the concepts of cyberbullying adopted by the national and international literature, produced in the field of Health and Education, focusing their emphases and "absences", as they characterize their relational dynamics and the associations that they delimit between the phenomenon and the health of children and adolescents.

#### Methods

This is a critical review of the literature. This methodological approach aims to critically analyze the literature on a topic, revealing weaknesses, contradictions, controversies or inconsistencies<sup>26</sup>. The contribution of a critical review lies in its ability to highlight problems, discrepancies or areas where existing knowledge about a topic is unreliable<sup>27</sup>. The scope analyzed for a critical review may be selective or statistically representative. This type of review rarely evaluates the quality of the selected studies, which is considered its critical point. Similar to the theoretical reviews, critical reviews can apply several methods of analysis, be they of interpretive bias (interpretive synthesis, discourse analysis, thematic analysis, for example) or those of a more positivistic nature (content analysis).

Scientific papers were published in international journals databases, namely, SciELO, BVS, Scopus, PubMed, APA (American Psychological Association), ERIC and ASSIA (Applied Social Sciences Index and Abstracts) during February 2017.

During the initial search, the term "cyberbullying" was used in all fields, resulting in a collection of 7,785 papers. When searching for the term "cyberbullying" in the Medical Subject Headings (MeSH), only the term "bullying" was found (https://www.ncbi.nlm.nih.gov/mesh/?term=cyberbullying). Among these thousands of papers, several addressed the subject of cyberbullying secondarily or just as a citation.

We chose to work only on review studies, selecting the texts where the term "cyberbullying"

appeared in the title and "review" was mentioned in all fields to reduce and qualify this collection. We considered review papers of any nature, designated by the authors themselves and belonging to the most different modalities: bibliographic review, comparative review, comprehensive review, critical systematic review, evidence review, literature review, systematic review, non-systematic review, and narrative review.

We applied exclusion criteria such as incomplete texts, non-free access texts, book chapters, gray collection, dissertations, monographs, resulting in 301 studies. After the analysis of each paper, we identified 156 duplicated papers that had not been detected by the reference management program (MENDLEY), as in the cases of studies recorded in writing in uppercase and/or with English text translation; when the original study was in Spanish or French; and, when authors were subtracted, and only the first author was mentioned followed by et al. Evaluating the collection of 145 papers, new refinement was carried out with a time selection of publications dated from 2006 to 2016, aiming to analyze how the theme has been disseminated in the last decade. We finally defined a collection of 72 review papers.

The collection was classified in alphabetical order based on the surnames of reference of the authors, by year of publication and by title (Table 1). The papers were read in their entirety, and their contents were identified and interpreted via thematic analysis from the following categories we defined as being central to the objectives of this study: cyberbullying concepts, dynamics, characters and health implications.

#### Results

Growing production is noted in the analyzed period (except 2016), with a predominance of American papers (27). The low number of publications in 2016 may reflect the short time between the publication and its availability in the index databases since the search was done in early 2017.

Regarding the fields of Health and Education, there were no significant differences in the number of Health (26) and Education (27) publications, much less in the type of approach produced on the topic. The other publications were considered as multidisciplinary/interdisciplinary. The most widely represented journals in this collection were *Aggression and Violent Behavior* (10), followed by *Computers in Human Behavior* 

Table 1. Categorization of the collection by year of publication, nationality and language.

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<b>Publications</b>	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Number of publications	8	21	12	11	7	9		2	1	2	1
Nationality of study	USA, United	USA, Singapore,	France, USA,		Sweden,	USA, Spain,	USA	Australia	USA	USA	Canada
	Kingdom,	Greece, Italy,	Italy, Turkey		Germany,	Mexico and					
	Australia,		and United		Switzerland,	Australia					
	Portugal,	Canada, France,	Kingdom		United						
	Belgium, Spain	Australia, United			Kingdom,						
	and Greece	Kingdom and			USA and						
		Spain			Colombia						
Language	English (7) and	English (7) and English (18),	French (1),	English	English (6)	English (2)	English (1)	English (2) English (1) English (2) English	English	English (2) English	English
	Spanish (1)	Portuguese (2)	English	(10) and	and Spanish	and Spanish			(1)		(1)
		and French (1)	(10) and	Portuguese	(1)	(2)					
			Portuguese	(1)							
			(1)								

(5). Thus, we addressed the collection from the specificities between the studies and not from their areas of origin.

# Concepts

Cyberbullying has many concepts, revealing different interpretations adopted by the scientific community. Part of the studies analyzed did not build a definition for cyberbullying but borrows bullying concepts, namely, aggression and harassment, already existing in the literature<sup>2,28-36</sup>.

A polyphony of definitions for cyberbullying was found in the collection, suggesting that the scientific community did not achieve consensus on the understanding of the nature and limits of the phenomenon, perhaps because of "immaturity" or as a reflection of these procedures, since digital relationships are dynamic and influenced by new technologies, incorporated continuously into the cyber universe. However, such polysemy generates some inconsistency in the research data and hinders comparison between studies<sup>37</sup>.

The translations of definitions proposed in English and appropriated by Latin-language studies may also vary semantically and lead to differentiated understandings, as in the example of the meanings between *cyberbullying* and *digital harassment*. German studies use the term *cyber-mobbing*. Such terms retranslated into Portuguese produce differentiated emphases. In the case of the translation of *harassment*, the character of systematic persecution is evident, which is not necessarily present in the phenomenon of cyberbullying.

Aboujaoude et al.<sup>37</sup> identified different designations for cyberbullying, such as cyberstalking, online aggression, cyber harassment, Internet harassment, Internet bullying, and cybernetic victimization or cyber-victimization. Most scholars considered the hostile nature of the act and the intent to cause suffering as crucial to the definition of cyberbullying.

As Smith et al.<sup>38</sup> evaluate, the characterization of cyberbullying as just a form of "digital bullying" has been a trend and; after analyzing several studies, they conclude that there is a debate about the use of a general definition (bullying) or the need to replace it with a more specific one.

Considering the collection analyzed, the primary definitions adopted can be divided into two blocks: those that recognize cyberbullying as a (new) form of bullying, pointing out differences and similarities; and those that address cyberbullying as a phenomenon of another nature,

different from bullying. We will analyze below the arguments that address the specificities that would approximate and distinguish bullying and cyberbullying.

In the first block of studies, most of the collection recognizes cyberbullying as digital bullying or a variation of bullying.

Among the authors who perceive cyberbullying as a variation of bullying, some advocate the relevance of contextualizing digital violence and its expression in aggressive behaviors39-43. The review by Allison and Bussey43 shows cyberbullying as an "intentional electronic aggression" that occurs in various ways, such as insults, threats, dissemination of embarrassing photos, and can be perpetrated through various media without the need for the physical presence of those involved. The authors relied on the extensive literature on bullying, and comparing it to cyberbullying, found that they are different in many aspects, such as anonymity, higher impact, a greater audience of viewers, individuality in the perpetrating practice, where physical presence of those involved is dispensable, and victims are affected anytime, anywhere<sup>44-46</sup>. For some, the repetitive nature would not necessarily be found in cyberbullying<sup>2,47-49</sup>, because only a derogatory posting gives content a permanent exposure. On the other hand, the possibility of anonymity is pointed out as the main/only difference between the two phenomena<sup>31,36,43</sup>.

Some reviews<sup>37,40,50-52</sup> have revealed that there is no consensus on whether repeated actions and power imbalance would be cyberbullying dynamics, but they indeed occur in bullying cases. Power imbalance has been associated several times with the alleged inability of the targeted cyberbullying victim to respond, or even lack of technological skills that would allow a better response in the digital environment. Faucher et al.<sup>53</sup> affirm that this exercise of power would be associated with the level of vulnerability of the private contents of the targeted person or even with the dissemination of such information without taking into account the consequences of exposure on social networks<sup>54</sup>.

Regarding the similarities, most studies indicate the repetition feature, the use of biting words, the imbalance of power and the intentional harm<sup>5,9,22,29,31,42,48,52,55-61</sup>. Thomas et al.<sup>46</sup> report that bullying and cyberbullying attacks are more alike than different and often co-occur.

For Yang and Grinshteyn<sup>5</sup> argue that closure of a conceptual meaning would not be beneficial since a delimited and concise definition could exclude a large number of potentially harmful behaviors. Besides, a definition that includes descriptive elements of the practice of cyberbullying specifying particular types of electronic devices over time may become obsolete after the launch of new technologies.

In the second block are the authors who affirm that cyberbullying is a new type of aggression, which evidences significant differences visà-vis bullying. However, many of them did not dedicate themselves to producing a specific theory or definition<sup>6,59,60,62-64</sup>.

Considering the argument about the unprecedented nature of the phenomenon, the audience's role in the context of the perpetration<sup>38,64</sup> is pointed out. Cyberbullying's audience is granted on a large scale by digital platforms, disseminating this deprecating content to thousands of people, whether at the time of message transmission, live video or later, and the ability to download content for offline access. Therefore, the exponential ability to share this content cannot be scaled by the perpetrator, and even if the content intends to spread to a smaller group of people, the abuser no longer has control over that content. The more it is viewed or shared, the higher the audience, unlike bullying, whose audience is limited to the people who were present at the time of the attack. In the case of bullying, even if the group of viewers grows with each new attack, it does not compare to the number of people who will have access to hostile content on the internet.

Brown et al.¹ warn that the virtual environment favors disinhibition, mentioning the case of people who suffer from bullying and who use the internet to take revenge on those who practiced such bullying since the Internet provides them with the possibility of anonymity through an alternative persona (use of fake profiles) to harass others. Thus, in some cases, those who suffer from bullying may be perpetrators of cyberbullying against their bullying face-to-face tormentor, especially when such a "rematch" would not be possible, as between subjects with different physical patterns.

It should be mentioned that part of the studies corroborates the alleged inconsistency in the definitions found in the literature 48,49,65 and that there is a lack of consensus among scholars who investigate the subject, either concerning the concepts and terms or on the aspects of similarity and difference between cyberbullying and bullying. As this theoretical framework expands, new scientific disagreements are likely to permeate this field under construction.

# Description of dynamics

The dynamics of cyberbullying rely on the actions and representations of each involved in this circle of violence. In this setting, they are perpetrators – those who practice violence, those affected (called victims), viewers (those who watch and share content that violates others), educators and parents, who are sometimes the last ones to know about the abuse.

There were significant differences in describing cyberbullying dynamics and the probable motives would be associated with the period in which the studies were published, since some forms of cyberbullying were not previously recognized and the types of technological devices and types of conversation/communication and sharing available online content also changed quickly. Not long ago, e-mails and text messages were the most widespread forms. Interactions through social networks have currently gained more space among young people (live broadcast, video calls, mass sharing, online group games, and so forth).

We highlight four studies that exemplify the dynamics of cyberbullying. Julia Wilkins et al.66 described seven types of cyberbullying based on the text establishing the London Anti-Bullying Program and Suzuki et al.54 also identify the same modalities, compiled as follows: 1. Text messaging- sent by cell phone with the intention of causing discomfort and threatening; 2. Image/video clip - when the images of the victims are sent to other people in order to threaten or embarrass; 3. Intimidation by telephone call - through silent calls or by abusive messages or when the victim's cell phone is stolen and used to harass others, blaming the cell phone owner; 4. E-mail intimidation: when content is sent, often using a pseudonym or the name of another person to make that person look like the perpetrator (outdated mode); 5. Chatroom bullying - aggressive and intimidating responses in chat rooms (also more outdated) 6. Intimidation through instant messaging; 7. Bullying through websites - using defamatory blogs, personal websites, online personal search sites and social networking websites (e.g., MySpace), as well as the establishment of forums.

Among the cyberbullying dynamics highlighted in the literature would be "namecalling" (calling someone rude names), spreading rumors, "flamings" (heated online discussions), threats, pretending to be someone else online (fake names), sending undesired photos or text messaging; "sexting" (postingor sharing images and videos with intimate content of another person without its consent<sup>2</sup>); and banning someone from an online social circle intentionally<sup>31</sup>. Besides social networking, cyberbullying would also manifest itself in MMOGs – multiplayer online games, a powerful player can "troll" (mock, humiliate) someone, stealing items from the game such as rewards, invading the account, forming gangs and blocking people on a social network; making jokes about a person's image and remotely controlling a person's camera/computer without the person's consent<sup>59</sup>.

The review by Kowalski et al.<sup>44</sup> ratifies the forms already mentioned and recognizes other forms of perpetration, among them: harassment (sending repetitive messages with offensive content), blocking online, requesting online information of personal content and later sharing with third parties without prior consent; cyber-stalking (using electronic communication to stalk another person) and posting inappropriate or derogatory information if going through another person.

Mehari et al.<sup>63</sup> reflect that aggressive behaviors in social relationships on the internet have low social control and are less recriminated when compared to those perpetrated in face-to-face relationships. Another aspect pointed out in the review by Mehari et al.<sup>63</sup> is the lack or shortage of verbal cues that would increase the likelihood of misunderstandings and misinterpretations. Thus, what a young person intends as a joke or friendly interaction can quickly become a mutually aggressive interaction if the other person interprets the comment as an insult or a threat. Lack of nonverbal cues can also reduce empathy, which serves as a natural control of adolescent behavior.

Arsene and Raynaud<sup>25</sup> point out that cyberbullying that occurs by visual means (photo or video) is more harmful and more negative than those involving text messaging and text on the Internet. The consequences would be more severe, the victims more affected than in other forms of cyberbullying and the risk of psychosocial suffering would have higher potential. In the review of these authors, pictures or videoclips had a more negative impact than in traditional harassment (interpreted as bullying).

## Characters involved

The main characters of cyberbullying are the perpetrators and the targeted people (the so-called victims). Few studies such as those of Allison and Bulsey<sup>43</sup> and Desmet et al.<sup>67</sup> analyzed the bystanders (witnesses) and their role in maintaining the cycle of violence and the spread of cyberbullying. Allison and Bulsey<sup>43</sup> identified which factors influence witness responses to cyberbullying. They concluded that bystanders are relevant to cyberbullying, as they have "the potential to change the situation by intervening, but most witnesses remain passive" (p. 183). Another study indicates that bystanders would be able to determine the potential for extension that an episode of cyberbullying might have in sharing, liking, commenting on an act of violence in these ways<sup>68</sup>.

There is a divergence in the analyzed literature regarding the gender selection that encompasses cyberbullying. Most reduce the debate to the variable "gender", seeking to know whether boys or girls are the biggest victims or perpetrators, or which ones would suffer the consequences of cyberbullying the most<sup>32,48</sup>. Bauman et al.32 identified in the literature cases of males who were practicing cyberbullying and bullying concurrently. According to other studies, females would be more involved in cyberbullying, and males in bullying situations, this without taking into account the sexual orientation of these individuals or their gender stance. Bailey31 claims there is dissent over boys being the most significant cause of cyberbullying.

On the other hand, many authors end up reinforcing gender stereotypes uncritically. In the Dooley et al.<sup>69</sup> study, girls would be more interested in looks, health, while boys would be more involved with online gaming. This text reproduces a gendered reading where girls tend to have more intense friendships, sharing intimate content and personal secrets, mainly through text messages, whereas boys socialize in social networks in larger groups and share less personal details.

Chibbaro<sup>42</sup> highlights a study that states that most of the girls (53%) suffered cyberbullying from acquaintances known as schoolmates, followed by friends and, to a smaller extent, brothers. Based on website NoBullying.com, Alim<sup>24</sup> states that girls are twice as likely to be causing cyberbullying as boys because boys would be more aggressive in physical terms, while girls tend to be more "quiet" when they want to affect someone, and sometimes when they bully, they become "serial". Along the same sexist lines, studies like Chan and Wong<sup>60</sup> argue that boys are the biggest perpetrators because they are more adept at using technology than girls.

There was also no consensus concerning the age group. The highest incidence is among the adolescents, and the cases decrease in the university stage<sup>51</sup>. According to Suzuki et al.<sup>54</sup>, girls would be the most affected, but in 15-17 years' group, the incidence is much higher than among young people aged 12-14 years. According to Hamn et al.<sup>70</sup>, the age factor is not determinant to being targeted by Cyberbullying.

According to Alim<sup>24</sup>, there would be a selection in the social status, since those suffering the most would be people from low-income strata.

Similarly, there is no agreement in the literature on ethnic/skin color contour. White students are the most significant perpetrators compared to other ethnic groups<sup>70,71</sup>. The Peterson and Peterson study<sup>71</sup> was the only one that aimed to examine possible links between cyberbullying behaviors and specific ethnic groups. This gap seems to show that discrimination based on ethnicity/ skin color can generate cyberbullying experiences. Peterson and Peterson<sup>71</sup> argue that some aspects must be analyzed, such as the population profile of ICT users; the scarcity of studies that specifically analyze the ethnicity/skin color issue, as well as the territory in which these studies are being produced and where these sample data are being collected.

# Associations and implications with the health of the involved

Psychopathologies are among the leading health implications of those involved in cyberbullying practices<sup>25,72-75</sup>.

The primary diseases listed for those suffering were insomnia, depression, low school performance or low concentration<sup>76</sup>. Brunnet et al.<sup>22</sup> show studies claiming that people who suffer from cyberbullying have fewer hours of sleep and less appetite than people who have suffered other forms of violence. When analyzing the Child Behavior Checklist (CBC) included in one of the verified studies, Bailey<sup>31</sup> indicated that those harassed by acquaintances were also "more likely to report greater conflicts with parents, physical or sexual abuse cases, offline interpersonal victimization, aggressive behavior and other social problems".

Those who are intimidated with cyberbullying would be approximately eight times more likely to carry a weapon to school than other students who did not have this experience<sup>22</sup>. Most studies also consider that cyberbullying would be associated with depression, drug use, suicid-

al ideas and suicide, stress, loneliness, and anxiety<sup>61,77,78</sup>, with psychiatric consequences that affect mental health and school development<sup>2</sup>, especially targeted adolescents. Seeking risky experiences, "internet use addiction", solitude and suicide are some of the psychological factors for both characters (victims and perpetrators), and for those who practice, factors would be interconnected<sup>24</sup>. We find no evidence that ground health impacts of bystanders.

# Discussion

The scarcity of studies that reflect on the contextualization of cyberbullying in cyberculture<sup>10,14,41,79</sup> and its modes of sociality was the most striking aspect in this review of reviews. How can we discuss a phenomenon without relating to its sociocultural context of production and reproduction? It is necessary to recognize that young people who experience cyberbullying are mostly "digital natives", implying mastery of their behaviors and grammars, besides that interaction space being strategic to identity affirmations of this segment<sup>1,80</sup>.

We note that, despite the conceptual redundancy, a significant advance in the search to further analyze the specific characteristics of cyberbullying occurred. We also highlight that cyberbullying has had an exponentially expanded audience regarding the dissemination of offensive content for an indefinite period – elements that challenge the work of promoting resilience to those who have suffered such practices. Someone may be stigmatized for a long time insofar as this content cannot be easily erased, as in cases of sexting, where content is available in search engines associated with the name of the person who suffered the violence, since cyberbullying can occur in any time and place and has mechanisms of

concealment of content and makes it more difficult for prior detection by adults and guardians.

Regarding the gender aspects, we highlight the Chan and Wong review60, who analyzed the prevalence rates of bullying and cyberbullying concerning the characteristics of the practitioners and intimidated and under what circumstances the actions were described in China, Taiwan, Hong Kong and Macao. We note a sexist discourse when authors make a gender selection in their analysis, and as examples, mention in the study that, in Taiwan, one of the facts of boys being the biggest bullies would be justified by their greater ability to use technologies. Although the cultural issue is clear, it favors interpretations that female adolescents would not have skills with technologies compared to male adolescents, not reflecting on the type of access that girls have to the technological, cultural and educational means in countries where man is considered superior. Another sexist record appears in Chisholm's study<sup>59</sup> that advocates that girls tend to engage in indirect, social, and relational aggression, such as in cyberbullying, exclude people on social networks and spread rumors. The "competitive" nature of women was highlighted by Wingate et al.58 in corroborating the idea that girls were more involved in relational cyberbullying practices.

Finally, we also note that the recognition of impacts on the mental health and daily life of the intimidated is consensual, and only a small group recognizes that there are impacts among the intimidators. In the context of Health, the theme is still recent and little disseminated, announcing a long journey to be traveled towards its understanding and positioning of the field. In the context of Education, the theme began to be discussed previously, which can be attributed to the recurrent correlation with bullying traversing school's daily life.

#### **Collaborations**

The authors contributed to all stages of elaboration and drafting of the paper.

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