

The Poison of Cyberbullying in Destroying Children's Sense of Empathy

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ABSTRACT

Cyberbullying is usually carried out because of the perpetrator's low level of empathy and has the potential to erode the victim's sense of empathy, making it possible for the victim to cyberbully other people as well. This research aims to bibliometrically analyze articles about the relationship between cyberbullying and empathetic attitudes from 2010 to 2024. Analysis was conducted using VOSviewers to obtain network map visualization, Scopus AI to identify references most relevant to the research topic, and reviewing all contents of selected journals to conduct a comprehensive analysis. The research results show that analysis via Vosviewer produced 16 clusters and Scopus AI produced 8 points regarding the relationship between cyberbullying and empathy, which can be summarized that cyberbullying can result in mental health disorders, both the erosion of good behavior, especially empathy in the perpetrator and the victim can experience

depression, even leading to suicide or loss of empathy within yourself because you want revenge for carrying out cyberbullying against other people. Cyberbullying behavior that can endanger a child's sense of empathy can be reduced by providing digital literacy assistance, strengthening character education, and getting used to always being empathetic, both offline and online, towards other people.

1. INTRODUCTION

One of the largest internet users comes from children because they already have social media profiles and spend most of their time on social media (Morgan & Fowers, 2022). Children who are increasingly comfortable in cyberspace for long periods of time can have a negative impact because they have frontal lobes that cannot yet maintain long-term memory, so they cannot modify various emotional impulses that are strengthened by sadistic and immoral content in games and social media so that they can become perpetrators of various cyberbullying behaviors towards others (Gómez et al., 2021; Yang et al., 2022). Cyberbullying is aggressive and detrimental interpersonal behavior via internet-based online devices such as computers and smartphones, which is carried out repeatedly, usually against victims who are considered weaker, such as based on gender, usually girls or boys who are physically smaller or not joining a group (Ribaldo et al., 2022), as well as various minority groups such as students from migrant communities in a country who cannot easily defend themselves (Eltanamly et al., 2022; Wong et al., 2011). Cyberbullying behavior can be a serious threat to the mental and psychological health of children who are victims. Children who are victims of cyberbullying can experience psychological problems such as feeling insecure and helpless, lonely and filled with anxiety, as well as suffering from feelings of insecurity and fear, sadness and unhappiness, thus triggering various symptoms of physical disorders such as difficulty sleeping and no appetite, disorders that cause problems with academic achievement, and mental disorders such as feelings of frustration and very irritability, feelings of trauma and excessive phobias towards other people, leading to antisocial attitudes, depression and stress, even experiencing burnout in everyday life that sometimes give rise to the desire to commit suicide (Llorca et al., 2017; Yang et al., 2022). More than that, various psychological and mental symptoms that cause burnout in children who are victims of cyberbullying can increasingly accumulate and boil over into feelings of anger and revenge which can erode the victim's sense of empathy, thus encouraging them to become perpetrators of cyberbullying, both towards the perpetrator and towards other people (Touloupis & Athanasiades, 2022). Even though this incident is rare, in general cyberbullying victims usually become more empathetic

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towards cyberbullying victims because they have experienced and felt the pain of being a cyberbullying victim (Llorent et al., 2021; Martínez et al., 2020; Shadbekar et al., 2021).

Empathy is the ability to understand thought patterns and feel someone's mood as if they were in that person's position (Coyne et al., 2019; Potard et al., 2021). Empathy is divided into two domains: cognitive empathy which functions to recognize, communicate, tolerate and feel emotions; and affective empathy, namely understanding and sharing feelings and emotions with other people (Shannen et al., 2021). Perpetrators of cyberbullying usually have a low sense of empathy, so they do not have the sensitivity and gentleness to feel the pain and loss of self-esteem experienced by victims of cyberbullying (Estévez et al., 2019; Horzum et al., 2021). Apart from that, cyberbullying perpetrators also do not have a responsible attitude because they usually only dare to carry out bullying through anonymous accounts and online over long distances, making it difficult for victims to confirm and defend themselves (Salem & Al Diyar, 2021; Schultze-Krumbholz et al., 2020).

The problem of a very serious loss of empathy in cyberbullying perpetrators and a slight erosion of empathy in a small number of cyberbullying victims must be addressed wisely and handled seriously by parents and educators (Wesnawa & Christiawan, 2021). Children who in fact really like to spend time surfing online in cyberspace, especially using social media, have the potential to become perpetrators or victims of cyberbullying, so they must be educated with the values of compassion and kindness so they can show an attitude of "online empathy" as a disposition to think, act and recognize feelings and maintain the self-esteem of other internet users as human beings who must be treated humanely (Marín-López et al., 2020; Morgan & Fowers, 2022). Children naturally instinctively like to play online games, so preventing cyberbullying can be done by playing online games such as board games, which can facilitate direct face-to-face interactions so that they can get to know each other and build good relationships driven by an increased sense of empathy (Poompimol et al. al., 2023). Some researchers have also developed various types of serious games, such as Fear Not! namely a virtual game that emphasizes anti-bullying behavior by instilling a sense of empathy in children (Ferreira et al., 2021a), Monite is a game that emphasizes communication and collaboration between students to develop empathetic attitude for each other (Mateus Francisco et al. , 2024), and Conectado, namely a game where children who play this game can feel and absorb the emotions suffered by victims of cyberbullying so that they can automatically increase their sense of empathy (Calvo-Morata et al., 2019; Calvo-Morata, Alonso- Fernández, et al., 2020). This research aims to bibliometrically analyze the positive and negative correlation of empathy with cyberbullying behavior involving children, both as perpetrators and victims.

2. METHOD

The research method used in this research is a literature study, in which data is obtained by searching for sources from relevant articles. Article sources are obtained with the help of the *Publish and Perish application* by entering the required keywords. The keyword used in the literature search was "cyberbullying", with a search period between 2010 and 2024. This period was chosen because it was considered the era when digital media began to be used in socializing. The data mining strategy is carried out through a search engine was carried out on. June 03, 2024, with the Scopus database to identify literature in the term article that discussed "cyberbullying with children case". The search involved a variety of article types, including articles and not reviews, meta-analyses, or book chapters.

The collected data is then exported to a text file in term RIS for further analysis using VOSviewer (<https://www.vosviewer.com/>). The first step of this research investigates fluctuations in research article publishing trends (Table 1). Second, analysis was carried out using VOSviewers to determine how bibliometrically the correlation between cyberbullying and empathy is. the authors who contributed the most and were relevant to the research topic. Third, analysis was carried out with scopus AI (Figure 2) to identify how the relationship between cyberbullying and empathy.

3. RESULT AND DISCUSSION

Cyberbullying is an action carried out by someone to frighten, anger, or humiliate another person through online media such as social media (Del Rey et al., 2016; Estévez et al., 2019; Segura et al., 2020). Cyberbullying can be done by someone without realizing it under the pretext of joking. Types of cyberbullying include outing and trickery, flaming, impersonation, harassment, cyberstalking, and denigration. Based on the results of a review of several studies from 2010 to 2024, cyberbullying can be experienced by everyone, from teenagers to adults, as seen in Table 1.

Table 1. Research article publishing trends

No	Author	Year	Type of Cyberbullying	Subjects' Biography
1	Ang & Goh	2010	Harm or discomfort someone	Adolescents with age ranging from 12 to 18
2	Steffden, et.al	2011	Harassment	Students
3	Goldstein	2012	Harassment	Adolescents
4	Cannon, et.al	2012	Cyberbullying	Female Adolescents
5	Wachs, Sebastian	2012	Cyberbullying	Students in grades 5–10
6	Dinakar, et.al	2012	Harassment	Adolescents
7	Topcu & Baker	2012	Sending threatening or hurtful comments	Adolescents in age from 13 to 18
8	Slonje, et.al	2012	Spreading threatening or rumour	Children and adolescents (aged 9– 16 years)
9	Low & Espelage	2013	Verbal cyberbullying	Early adolescents (5th through 7th grades)
10	Casas, et.al	2013	Intimidation	Students age 13
11	Campbell, et.al	2013	Cyberbullying	Students age range 10 to 19
12	Lazuras, et.al	2013	Maladaptive emotion, cyberbullies	Adolescents
13	France, et.al	2013	Cyber aggression	Adult with a mean age 20,96
14	Schultze-Krumbholza & Scheithauera	2013	Psychopathological symptoms and social withdrawal	7th and 8th grade students
15	Pettalia, et.al	2013	Harassment	Students mean ages 12,88
16	Doane, et.al	2014	Deception, malice, public humiliation, and unwanted contact	College students
17	Wong, et.al	2014	Maliciously spread fictitious rumors about another person on the internet and edited and post another person's photographs on the internet for humiliation purpose	Secondary schools students
18	Rey, et.al	2015	Cyberbullying	Students grades 7 to 10
19	Pabian, et.al	2015	Cyberbullying	Adolescents aged 10-13
20	Bowler, et.al	2015	Denigration	High-school students between the ages of 14 and 17 and undergraduate students in their late teens and early 20s
21	Cao & Lin	2015	Harassment	Teenage SNS users'
22	Brewer & Kerslake	2015	Harassment	Adolescents aged 16–18
23	Doane, et.al	2016	Unwanted contact, malice, deception, and public humiliation	College students
24	Rey, et.al	2016	Cyberaggression	Students age 11 - 19
25	Machackova & Pfetsch	2016	Verbal aggression and cyberaggression	Adolescents age 12–18
26	schacter, et.al	2016	Attributions of victim blame	Young adults between the ages of 18 and 22
27	Athanasiades, et.al	2016	Harassment	Secondary school students, aged 12–14
28	Schultze-Krumbholz, et.al	2016	Cyberbullying	High school students aged 11–17 years
29	Chaux, et.al	2016	Cyberbullying	Students (ages 11–17)
30	Chan & Wonh	2016	Harassment	Secondary schools students
31	Chan, et.al	2017	Cyberbullying, cyberaggression	Adolescents aged 12-15
32	Lee & Shin	2017	Flaming	Middle and high school students

33	Bergmann & Baier	2017	Sexual and psychological cyberbullying	Ninth-grade students
34	Pfetsch	2017	Write mean messages to a person to insult	Young adults 18–40 years old
35	Coyne, et.al	2017	Workplace bullying	International employee
36	Ang, et.al	2017	Cyber aggression	Adolescents (age ranging from 12 to 18)
37	Solomontos-Kountouria, et.al	2017	Cyberbullying	Gymnasium students grade 7 to 9
38	Bhat, Cristine	2017	Cyberbullying and sexting	Middle and high school students
39	Leduc, et.al	2018	Cyberaggression	Students age range 8 to 16
40	Ouvrein, et.al	2018	Online celebrity aggression	Adolescents with a mean age of 14.17
41	Rodríguez-Hidalgo, et.al	2018	Cyber aggression	Compulsory secondary education students
42	Liu, et.al	2018	Violating role-related norms and expected behaviors	Undergraduate students
43	Garaigordobil & Martinez-Valderrey	2018	Cyberstalking, Harassment	Adolescents aged between 13 and 15
44	Yuliawanti & Adiyanti	2018	Cyberbullying	Adolescents with age range of 14 to 18
45	Acosta, et.al	2018	Imidation	Middle school students
46	Baelinska, et.al	2018	Harassment	Junior high school students
47	Leemis, et.al	2018	Cyber sexual harassment	Middle and high school students
48	Schultze-Krumbholz, et.al	2018	Flaming	Students grades 7-10
49	Parlangeli, et.al	2018	Flaming	Students from first to fifth year in high school classes
50	Wright & Wachs	2019	Homophobic cyberbullying	Adolescents (age range from 12 through 15)
51	Horzum, et.al	2019	Cyberbullying	Female and male adolescents
52	Rudnicki, et.al	2019	Online celebrity bashing	Male students
53	Schultze-Krumbholz, et.al	2019	Cyberbullying	Male students
54	Hayashi & Tahmasbi	2019	Cyberbullying	Undergraduate students
55	Arato, et.al	2019	Maladaptive emotion, cyberbullies	Male students age range 12 to 19
56	Estevez, et.al	2019	Psychological maladjustment	Adolescents aged 11-18
57	Morata, et.al	2019	Cyberbullying	Students
58	Phillips, et.al	2019	Messages of threatened suicide and advocated suicide	Mature people
59	Ingram, et.al	2019	Cyberbullying, relational aggression	Middle school students
60	Graf, et.al	2019	Cyberbullying	Students
61	Adiyanti, et.al	2019	Cyberbullying	Teenagers aged between 12 and 18
62	Rodríguez-Hidalgo & Hurtado-Mellado	2019	Homophobic cyberbullying	Secondary schools students
63	Kozubal, et.al	2019	Blackmailed someone on the internet	High school students
64	Sorrentino & Farrington	2019	Teased teachers online	Students aged 11-19
65	Wang, Sai	2020	Cyberbullying	Held a bachelor's degree or above
66	Fang, et.al	2020	Callous unemotional traits	College students
67	Shaadmanfaat, et.al	2020	Cyberbullying	High school students
68	Hidalgo, et.al	2020	Cyberaggression	Students (age range from 11 to 18)
69	Martínez, et.al	2020	Bullying and cyberbullying	Students (age range from 12 to 19)
70	Garaigordobil, et.al	2020	Cyberaggression	Adolescents (age range 13 to 17)
71	Sun, et. al	2020	Psychological maltreatment	College students
72	Segura, et.al	2020	Cyberaggression	Male adolescents
73	Yang, et.al	2020	Harassment	Adolescents

74	Lopez, et.al	2020	Cyberaggression	Male students
75	Chan & Wong	2020	Harassment	Adolescents
76	Garaigordobil	2020	Cyberaggression, cyberbullying	Students aged 12-17
77	Safaria & Suyono	2020	Flaming & Harassment	Students median age 15
78	Mascia, et.al	2021	Cyberbullying	Adolescents (age range from 11 through 17)
79	Aldiyar, Mosaad Ali	2021	Harassment	Adolescents in the intermediate stage (average age 15.1 ± SD 1.5 years)
80	Liorent, et.al	2021	Cyberbullying	Primary and secondary school students
81	Giumetti, et.al	2021	Low bullying rule clarity, lack of social support, lack of self-control, and maladaptive personality	College students
82	Shannen, et.al	2021	Outing and trickery, impersonation, denigration	Junior high school students
83	Ferreira, et.al	2021	Harassment	7th and 8th grade students
84	Garifullin	2021	Callousness, indifference, and lack of emotion.	College students
85	Zhong, et.al	2021	Flaming	College students
86	Hayashi & Tahmasbi	2021	Cyberbullying	College students
87	Morgan & Fowers	2021	Cyberbullying and deceptive communications	Adolescents aged 11-18
88	Nasywa, et.al	2021	Insults, shaming, and threats to other people	11th grade students from vocational schools
89	Wang, et.al	2021	Spread bad rumors	Students mean age 13.46
90	Martinez, et.al	2021	Insult other children	Children aged 7-12 years
91	Marín-Cortés, et.al	2021	Cyberbullying	Public and private school students
92	Huang, et.al	2022	Cyberbullying	College students
93	Kapitany-Foveny, et.al	2022	Impulsivity and problematic internet use	Adolescents mean age = 11.25,
94	Utomo	2022	Verbal cyberbullying	Privat high school students
95	Cebollero-Salinas, et.al	2022	Cyber-gossip	Adolescents aged 12-16
96	Lozano-Blasco, et.al	2022	Cyber-aggression	Adolescents with a mean age of 16.32 years
97	Sorrentino, et.al	2022	Cyber aggression	Students aged 10-16 years
98	Cui & Li	2022	Cyberbullying	High school students
99	McLoughlin, et.al	2022	Cyberbullying	Adolescents aged 18-25
100	Fabris, et.al	2022	Harassment	Middle school students
101	Pyzalski, et.al	2022	Cyberbullying	Junior high schools
102	Concha-Salgado, et.al	2022	Cyber-aggression	Adolescents aged 14 to 18 years
103	Salem, et.al	2022	Threaten or intimidate 15.1 years	Adolescents with a mean age o
104	Rebisz, et.al	2022	Exclusion, flaming, harassment, outing	Students at elementary school
105	Hinduja & Patchin	2022	Harassment	Adolescents aged 12 to 15 years
106	Łosiak-Pilch, et.a	2022	Harassment	Polish public primary school
107	Chu & Xie		Outing and trickery 17-25	Vocational college students aged
108	Touloupis & Athanasiades	2022	Harassment	Students with special need
109	Hu, et.al	2023	Harassment	Adolescents
110	Gao, et.al	2023	Spread bad rumors	Middle school students
111	Vahed, et.al	2023	Harassment	Teenagers aged mean 28,33
112	Malinowska- Cie 'slik, et.al		Cyberbullying	Students from two grades K9-11
113	Fransisco, et.al	2024	Cyberbullying	Students of 7th grade to 9th grade
114	Wienrich, et.al		Cyberbullying 9th grade)	Younger school students (5th-

The results of the bibliometric analysis with VOSviewers are shown in Figure 1. The visualization in Figure 1 shows that empathy, bullying, and cyberbullying have the largest item sizes among the other items. The results of the analysis above show that cyberbullying can cause depression and even anxiety, and it is known that one solution to prevent bullying or cyberbullying behavior is to instill empathy in children through character education. The visualization above also shows that there is a continuous relationship between cyberbullying and empathy, as evidenced by the items that are always connected to each other when associated with other items. VOSviewers analysis shows that there are 16 clusters in it, namely:

- 1) Cluster 1 consists of 19 items in red, namely attitudes, college students, cyberbullying, evaluation, prevention, program evaluation, protective factors, school bullying, and traditional bullying.
- 2) Cluster 2 consists of 7 green items, namely anxiety, cyberbullies, cyberbullying perpetration, cyberbullying victimization, depression, mental health, and self-esteem.
- 3) Cluster 3 consists of 6 blue items, namely adolescence, cyberaggression, cyber victimization, emotional intelligence, happiness, and predictors.
- 4) Cluster 4 consists of 5 yellow items, namely bullies, bystanders, early adolescent victims, offline bullying, and psychological distress.
- 5) Cluster 5 consists of 5 purple items, namely bullying, digital citizenship, game-based learning, serious games, and video games.
- 6) Cluster 6 consists of 5 cyan colored items, namely bully, bystander effect, internet, intervention, and victim.
- 7) Cluster 7 consists of 5 orange items, namely, homophobic bullying, problematic internet use, self-regulation, social skills, and social support.
- 8) Cluster 8 consists of 4 brown items, namely, cyber-bullying, internet addiction, privacy, and school climate.
- 9) Cluster 9 consists of 4 pink items, namely affective empathy, cognitive empathy, cyber bystanders, and gender.
- 10) Cluster 10 consists of 3 orange-brown items, namely adolescent, bullying perpetration, and perpetration.
- 11) Cluster 11 consists of 3 green items, namely empathy, friendship quality, and virtual reality.
- 12) Cluster 12 consists of 3 blue-purple items, namely celebrity bashing, moral disengagement, and online aggression.
- 13) Cluster 13 consists of 3 yellow items, namely games, hate, and social media.
- 14) Cluster 14 consists of 2 purple items, namely emotions and moral emotions.
- 15) Cluster 15 consists of 1 light blue item, namely violence.
- 16) Cluster 16 consists of 1 yellow item, namely digital literacy.

The results of the analysis of the relationship between cyberbullying and empathy using Scopus AI are as seen in Figure 2.

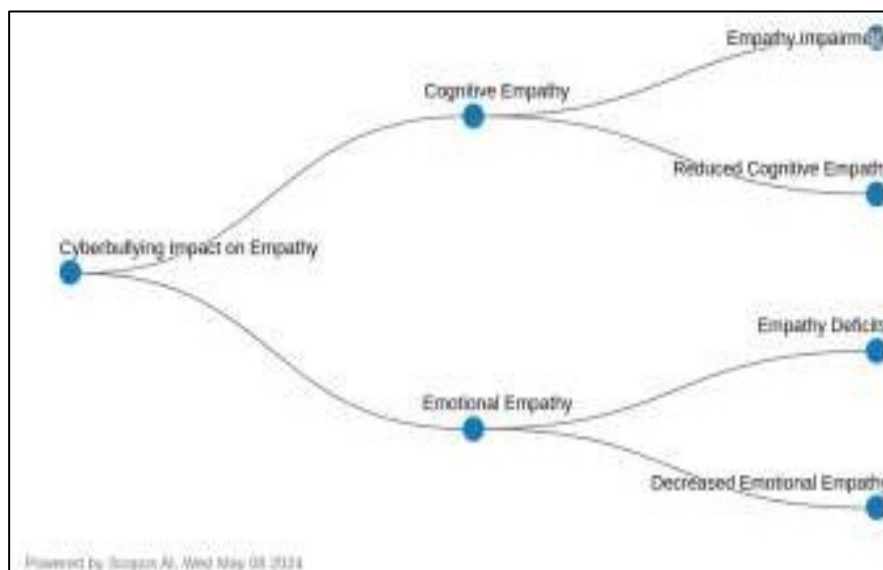


Figure 2. Scopus AI Analysis Results

The results of the analysis of the correlation between cyberbullying and empathy using Scopus AI in Figure 2 above show how cyberbullying can have an impact on empathy in teenagers. Cyberbullying is closely related to empathy, both as a cause within the perpetrator and as a result experienced by the victim, as proven by the following research:

- 1) Research on empathy and bystander behavior shows that teenagers' empathy plays an important role in their positive behavior during cyberbullying incidents.
- 2) Research shows that cognitive empathy has been proven to influence adolescents' supportive behavior toward individuals who experience cyberbullying.
- 3) Other research also emphasizes empathy training for teachers and parents to prevent and overcome cyberbullying.
- 4) Research on empathy and cyberbullying perpetration shows that empathy moderates the relationship between online disinhibition and cyberbullying perpetration among adolescents.
- 5) Other research also shows that high levels of empathy have been shown to reduce cyberbullying, especially in adolescent girls.
- 6) Research on the longitudinal impact of cyberbullying on empathy suggests that cyberbullying as a bystander has been associated with decreased empathic responsiveness among early adolescents over time.
- 7) Research on empathy and bystander mental health shows that empathy is proven to moderate the relationship between being a bystander of cyberbullying and depression among adolescents.
- 8) Research on empathy and moral disengagement suggests that greater empathy has been associated with lower moral disengagement in cyberbullying incidents, indicating a dynamic relationship between empathy and moral behavior.

In conclusion, the impact of cyberbullying on adolescent empathy has many aspects, influencing behavior, actions, mental health, and moral decision-making. These findings underscore the importance of empathy in addressing and preventing cyberbullying among adolescents.

4. CONCLUSIONS AND RECOMMENDATIONS

Adolescents are at the crossroads of ways of thinking, acting, and feeling between childhood and adulthood. Teenagers with great curiosity who often surf virtually on the internet have the potential to be exposed to sadistic and immoral content, so they can become perpetrators of cyberbullying such as outings and trickery, flaming, impersonation, harassment, cyberstalking, and denigration. This research shows that various types of cyberbullying are strongly correlated with feelings of empathy. A low sense of empathy in the perpetrator is a strong trigger for carrying out cyberbullying against other people. Children's low level of empathy can be improved by using "online empathy" programs and various games that instill empathy, both cognitive and affective, so that it can be used as a disposition to think, act, and share feelings to treat other people humanely. This research has limitations because it is still limited to a literature review study so the analysis carried out is only on a compilation of research on the relationship between cyberbullying and empathy. Further research can be carried out quantitatively to measure how strong the influence of cyberbullying is on children's feelings of empathy and what comprehensive solutions are offered to strengthen empathetic attitudes and eliminate bullying behavior in children's world.

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