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Implementing TikTok-Based Health Literacy Interventions for Cyberbullying Mitigation among Junior High School Students

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ARTICLE INFO	ABSTRACT
	Introduction: Cyberbullying is one of the crimes based on the advancement of information technology, often perpetrated through social media with the intention of deliberately and repeatedly hurting someone. Cyberbullying is a problem contributing to the increasing incidence of mental disorders among teenagers today, thus requiring specific intervention. This study aims to assess the utilization of TikTok media in preventing cyberbullying among junior high school students. **Method:** The study employed a pre-experimental design with the one-group pre-test post-test design. The population consisted of all students of junior high school 21 Makassar totalling 671 individuals, with a sample size of 182 respondents selected using purposive sampling technique. Data were analysed using the Wilcoxon Sign Rank Test. **Result:** There was an influence of utilizing TikTok media in preventing cyberbullying among junior high school students in Makassar ($p = 0.000$).
	Conclusion: The study findings indicate that the use of TikTok media was associated with observable positive behavioral shifts among junior high school students, suggesting its potential utility in health literation initiatives aimed at preventing cyberbullying.

INTRODUCTION

The internet users in Indonesia in 2022 amounted to 204.7 million individuals. Among them, approximately 16.68% fall within the age range of 13-18 years old. This percentage represents the highest proportion among other age groups, indicating that internet users in Indonesia are predominantly teenagers, specifically those in junior high school or high school age categories (1). Teenagers predominantly utilize the internet for accessing social media platforms. The utilization of social media is crucial for adolescents in establishing relationships, seeking information, and finding entertainment. However, if not managed responsibly, the utilization of social media has the potential to have negative impacts on teenagers' mental health.

According to Bashir and Bhat (2017), the use of social media is associated with several issues such as online harassment, sexting, cyberbullying, stress, loneliness, fatigue, emotional suppression, decline in intellectual abilities, and lack of concentration among teenagers (2). Cyberbullying is one of the crimes based on the advancement of information technology, often carried out through social media. Cyberbullying refers to negative activities intended to deliberately and repeatedly harm someone. Forms of treatment received by cyberbullying victims include being ignored, disrespected, called names, threatened, mocked, and rumours spread by others (3). Such treatment can cause mental or psychological harm to the victims, including feelings of pain, suffering, and proven traumatic effects (4). Victims tend to experience symptoms of mental health disorders such as depression, sadness, anxiety, anger, fear, avoidance of school friends, and a decline in academic performance (5).

Cyberbullying often occurs on social media, accounting for 71% of cases, through messaging apps at 19%, online games at 5%, YouTube at 1%, and other platforms at 4% (6). The 2021 Digital Civility Index conducted by Microsoft on 503 Indonesian netizens revealed that Indonesia ranked third among 32 countries for the least courteous behavior on social media. The most common forms of uncivil behavior on social media in Indonesia include the spread of misinformation (hoaxes) and scams at 47%, hate speech at 27%, and discriminatory acts at 13% (7). Data from APJII in 2019 indicates that out of a total of 5,900 internet users, 31.6% experienced cyberbullying, with 985 individuals (16.7%) being teenagers (1).

Teenagers are a highly vulnerable age group to both perpetrate and be victims of cyberbullying. This vulnerability stems from the fact that teenagers are in a transitional period from early childhood to early adulthood, involving not only biological changes but also cognitive and emotional development (8). Furthermore, Hurlock (1993) mentions that teenagers are individuals experiencing 'storms and stresses,' a period during which emotional tension in teenagers is heightened (9). The emotional condition of teenagers is prone to experiencing conflicts and mood swings, where thoughts, feelings, and actions oscillate between pride and humility, goodness and temptation, as well as joy and sadness, leading teenagers to undergo unstable emotional changes.

The unstable emotions in teenagers make them susceptible to mood swings when exposed to disruptive stimuli from the environment, often leading to irrational responses and causing issues. In the case of cyberbullying, internally, teenagers may become perpetrators driven by their emotional instability. Meanwhile, teenagers who become victims are at high risk of experiencing mental disorders. In periods of unstable mental health, teenagers often connect, utilize, and rely on social media platforms as outlets to express their mental issues. The Dependency Theory by Sandra Ball-Rokeach and Melvin DeFleur (1976), which explains the concept of mass media as a means to fulfil human needs, suggests that the more someone relies on media to satisfy their needs, the more important the role of media becomes in that person's life.

TikTok is the most downloaded social media platform up to this year. According to the statistical data from 'We Are Social' in 2023, Indonesia ranks second with a total of 112.97 million active TikTok users (10). The percentage of TikTok users based on age is predominantly dominated by teenagers, specifically those aged 10-19 years, accounting for 32.5% (11). Unlike other social media platforms, TikTok has its own uniqueness and characteristics, such as its short video duration, ranging from seconds to a maximum of 3 minutes, which seemingly hypnotizes users with instant enjoyment.

The combination of TikTok's presentation with accompanying music is capable of inducing addictive pleasure among users, leading them to continuously swipe through the app's content. This factor contributes to TikTok's popularity among Indonesian teenagers. The TikTok video content, incorporating features like caption hashtags, music, or video and filter effects, significantly influences the number of responses received. Utilizing the TikTok application offers significant new benefits (12). The characteristics of TikTok media, highly favoured among

teenagers, present significant opportunities not only for entertainment but also for educational purposes. Therefore, TikTok media is considered capable of fulfilling the educational needs of its users, particularly through health literacy content.

The TikTok application can be utilized as an engaging and interactive learning media for teenagers (13). In line with the research by Firamadhina and Krisnani (2020), which suggests that TikTok social media can be utilized as both educational and recreational media (14). The research conducted by Arif (2021) indicates that video media through the TikTok application is effective in enhancing teenagers' knowledge about CHB (Clean and Healthy Behavior) in junior high school 12 in the city of Bengkulu (15). The implementation of TikTok media by elementary school students in the form of enthusiastic video watching and the enhancement of students' knowledge. This aligns with Ruru's research (2022), which suggests that the use of TikTok social media as an educational tool influences the knowledge and attitudes regarding balanced nutrition among teenagers at catholic high school in the city of Makale (16).

The rate of adolescent deaths due to bullying cases, including cyberbullying, in Indonesia remains relatively high. Trisa Genia, a psychologist, revealed that 40% of teenagers in Indonesia commit suicide due to being unable to cope with bullying incidents. Furthermore, 38.41% admitted to being perpetrators, while 45.35% admitted to being victims (17). Quoted from the Kompas scientific article (2022), one of the cases occurred in the city of Tasikmalaya, which was experienced by an elementary school boy. The victim was initially bullied, beaten and forced to have sex with a cat and then deliberately recorded by the perpetrator until it went viral on social media, showing that the victim also received denigration type cyberbullying treatment. This makes the victim depressed, so he doesn't want to eat or drink and continues to daydream until he is taken to hospital and dies during treatment. Apart from that, there was also a case where a North Lampung Regency high school student tried to commit suicide by jumping into a river because of the spread of an immoral video with her boyfriend. The victim felt embarrassed, afraid and depressed, so the impact was very fatal and almost made the victim end his life (18).

Makassar is one of the cities that needs special attention regarding the prevalent cases of cyberbullying among teenagers. Data from the Women and Children Service Unit (WCSU) in Makassar City shows that the number of cases related to violence against children in 2022 amounted to 622 cases. Cases of violence against children within school settings accounted for 29 cases (2022). Additionally, there were 14 recorded cases of online violence against children (2022), including cases of cyberbullying among teenagers.

Based on an interview with the Head of the Women and Children Service Unit (WCSU) in Makassar City in December 2022, identifying cases of cyberbullying is considered quite challenging due to the use of online media. Additionally, cyberbullying is only deemed a case when there is a reporting process from the victim or witness. From several cases of violence against children or teenagers followed up by the WCSU in Makassar City, particularly at the junior high school level, many are triggered by poor emotional relationships utilizing social media to channel acts of teasing and provocation, whether through WhatsApp groups, Insta stories, or direct messaging. Consequently, this leads to direct acts of violence between students. Without specific preventive efforts, such cases may become normalized behavior among teenagers.

In response to these issues, it is deemed crucial to implement literacy efforts for teenage students through educational institutions, especially for schools that have not yet received preventive measures against cyberbullying. One such institution is junior high school 21 Makassar, a middle school strategically located in an urban area. Junior high school 21 Makassar has a total of 671 students in the early teenage age group, ranging from 12 to 13 years old. Based on initial observations conducted in December 2022 and direct interviews with the school principal and guidance counsellors, it was found that incidents of cyberbullying still occur frequently among students at the school. Conflicts among students at junior high school 21 Makassar are usually triggered by mutual teasing through WhatsApp chats and other social media platforms such as Instagram. One notable case that occurred in early 2022 involved physical violence among students at junior high school 21 Makassar, which went viral on social media in video format. This incident not only had physical effects on the victimized students but also had a significant impact on their mental well-being, especially considering the virality of the video on social media. Mentally, the victims experienced feelings of shame, stress, and depression.

Thus far, the school has made every effort to address each case of bullying and cyberbullying experienced by students, particularly through counselling services provided by the guidance and counselling staff. In addition to

counselling services, preventive efforts are prioritized to prevent incidents of cyberbullying among students at junior high school 21 Makassar. The school also recognizes the importance of literacy as a preventive measure against cyberbullying incidents among junior high school 21 Makassar students.

Social media plays a role in enhancing health literacy and maintaining the mental health of teenagers. However, research on the utilization of TikTok social media remains limited. Cyberbullying is a problem contributing to the increasing incidence of mental disorders among teenagers today, thus requiring specific intervention. There is still limited research describing how the use of TikTok media influences individuals' behavior to refrain from actions that may harm others' mental health, such as cyberbullying. This study intended to assess the utilization of TikTok media in preventing cyberbullying among junior high school students. Accordingly, this study is designed to answer the following research question; "How is TikTok utilized as a medium for preventing cyberbullying among junior high school students?

METHODS

This study employed pre-experimental design with the one group pre-test post-test design as the research method. The aim was to describe the influence of an intervention involving mental health literacy through TikTok media as an effort to prevent cyberbullying in junior high school 21 Makassar. The literacy intervention in this study focused on providing information related to mental health, specifically the prevention of cyberbullying actions through video content on the TikTok application.

The research was conducted at junior high school 21 Makassar, an educational institution located strategically in an urban area, offering junior high school education. In total, there are 671 students enrolled at junior high school 21 Makassar. The sample size for the study was determined using the Stanley Lemeshow formula. Consequently, the sample size for this research was 172 students, with an additional 10% added for dropout anticipation, bringing the total sample to 182 students. Purposive sampling technique was employed to select respondents based on specific criteria. The sample criteria for this research were as follows: individuals aged between 11-15 years old, owning gadgets, and having a TikTok social media account. Samples would be excluded if they were currently ill or undergoing treatment, did not attend school, or failed to complete the questionnaire. The recruitment of junior high school students was carried out with formal permission from the school authorities and teachers, who acted as the students' guardians, thereby ensuring compliance with ethical standards for research involving minors.

Data collection was conducted through questionnaire completion by 182 students of junior high school 21 Makassar, in accordance with the predetermined criteria. The data collection process (pre-test) took place on July 18, 2023, followed by a 2-week intervention process from July 19, 2023, to August 2, 2023. This was then followed by the post-test data collection process on August 3, 2023.

The measurement of cyberbullying actions utilized questions based on the research scale conducted by Putri (2018), which were modified to align with the objectives of this study (19). The questionnaire items were formulated based on the measured actions, encompassing various types of cyberbullying behaviors (5): 1) Flaming: Sending text messages containing angry and confrontational words to others. 2) Harassment: Sending messages containing disturbances through email, SMS, or social media messages continuously by the perpetrator towards the victim. 3) Cyberstalking: Intensively disturbing and tarnishing someone's reputation to the extent of instilling great fear in that person. 4) Denigration: Posting or spreading false information about someone on the internet with the intention of damaging their reputation and character. 5) Impersonation: Pretending to be someone else and sending negative messages or statuses aimed at making others look bad or placing them in danger. For example, stealing someone's social media account password and then posting negative statuses or insulting others. 6) Outing and Trickery: Spreading someone else's secrets or personal photos, while Trickery involves deceiving someone to obtain their secrets or private photos, then spreading or publishing them through electronic media. 7) Exclusion: Deliberate and cruel actions aimed at removing someone from an online group.

The researchers conducted a pilot test of the questionnaire with 30 respondents aged 11–15 years, who were junior high school students from a different school than the intervention subjects but shared similar characteristics (homogeneous). The results showed that each item for every variable had a significance value of $p < 0.05$, indicating that all items were valid. The reliability test using the same 30 respondents showed a Cronbach's alpha value greater than 0.60 for each variable, demonstrating that all questionnaire items were also reliable.

As the medium utilized for intervention, the content of mental health literacy was designed using TikTok media. The procedure for developing the intervention media employed in this study can be observed in table 1.

Table 1. Procedure for Developing Mental Health Literacy Content Using TikTok Media

Num	Description of Activities	Briefing
1	Download TikTok application	Using Smartphone
2	Create an account with the username @Talkaboutcyberbullying	Using Smartphone
3	Design scenarios for content that includes literacy about cyberbullying	Scenarios are based on real-life situations commonly or frequently experienced by teenagers, making them relatable
4	Determine characters to play roles in the content	Actors are teenagers with enhanced acting abilities
5	Take videos	Using camera, microphone, and lighting
6	Editing	Utilizing video editing applications (Kinemaster, VN, and Capcut)
7	Upload video content to the TikTok media account	Using the TikTok application, videos are posted three times a week
8	Branding of posts	Utilizing hashtags such as #Talkaboutcyberbullying, #Againstcyberbullying, and #Stopcyberbullying in each uploaded video post

The development of literacy through TikTok media refers to the "P" Process concept or communication planning model "P" developed by the John Hopkins Bloomberg School of Public Health. The "P" process communication planning model consists of six stages, namely Research; Plan; Development of materials; Testing; Implementation; and monitoring evaluation and adjustment. Based on the stages in the "P" model communication planning, there are testing and adjustment stages, where researchers then conduct media testing by answering several questions in table 2.

Table 2. List of Questions in Media Feasibility Testing

Num	Question	Respond	
		Yes	No
1	Do you like this media?		
2	Do you like the colour selection in this media?		
3	Do you like the character selection in this media?		
4	Can you understand the message/content conveyed in this media?		
5	Do you like the composition of this media?		

The feasibility testing of the TikTok media, which had been designed, was conducted at different school locations from the intervention target in this study. The testing took place in June 2023 with 30 junior high school students as respondents. The results obtained from the media testing showed that for questions 1, 2, and 3, all respondents answered "yes," while for question number 4, one respondent answered "no," and for question number 5, two respondents answered "no." There was no further response given to the respondents who answered "no" as the number was not significant. The description of the intervention conducted in this study can be seen in table 3.

Table 3. Description of Intervention Process

Num	Video	Content	Duration	Briefing
1	Video-1	Overview of cyberbullying cases	1 minute	Provides information about the incidence of cyberbullying cases among teenagers and triggers students' curiosity about cyberbullying actions
2	Video-2	Definition of cyberbullying	1 minute 3 seconds	Provides information about the definition of cyberbullying

3	Video-3	Forms of cyberbullying (1)	1 minute 19 seconds	Provides information about flaming, which is a form of cyberbullying action
4	Video-4	Forms of cyberbullying (2)	1 minute 39 seconds	Provides information about denigration and exclusion, which are forms of cyberbullying actions
5	Video-5	Forms of cyberbullying (3)	1 minute 10 seconds	Provides information about cyberstalking, harassment, and impersonation, which are forms of cyberbullying actions
6	Video-6	Forms of cyberbullying (4)	1 minute 23 seconds	Provides information about trickery and outing, which are forms of cyberbullying actions
7	Video-7	Forms of cyberbullying (5)	1 minute 10 seconds	Provides a brief overview of the forms of cyberbullying and encourages students to think about the impact of cyberbullying on the mental health of victims
8	Video-8	Impact of cyberbullying	1 minute 45 seconds	Provides information about the psychological, social, and academic impacts of cyberbullying on students
9	Video-9	How to respond to & prevent cyberbullying	1 minute 17 seconds	Provides information about the steps that can be taken to respond to and help friends or relatives who are victims of cyberbullying
10	Video-10	How to respond to a friend who is a victim of cyberbullying	2 minutes 8 seconds	Provides information about the steps that can be taken to respond to cyberbullying behaviour from someone and efforts to prevent it

The data analysis method used in this study is the Wilcoxon Signed Rank Test, which is a non-parametric test for analysing paired data from two different treatments. The Wilcoxon Signed Rank Test aims to measure the significance of the difference between two paired groups of ordinal or interval scale data with non-normally distributed data. It serves as an alternative test to the paired t-test or t-paired when the normality assumption is not met.

RESULTS

The study was conducted from July to August 2023. A total of 10 videos were produced via TikTok, each ranging from 1 to 3 minutes in duration. The video content revolved around efforts to prevent cyberbullying. The study involved 182 junior high school students as subjects, and their profile characteristics can be seen in table 4.

Table 4. Frequency Distribution of Respondents based on Demographic Characteristics

Respondent Characteristics	n=182	%
Age		
12	6	3.3
13	33	18.1
14	101	55.5
15	37	20.3
16	4	2.2
17	1	0.5
Sex		
Male	98	53.8
Female	84	46.2

Respondent's Actions

The actions referred to in this study are the respondents' actions related to cyberbullying, in forms such as flaming, harassment, cyberstalking, denigration, impersonation, outing, trickery, exclusion, as well as prevention and coping methods. The respondents' actions before and after the provision of health literacy intervention using TikTok media can be seen in table 5, which provides a detailed overview of 14 types of cyberbullying-related actions. The results show an increase in the proportion of positive behaviors related to cyberbullying following the intervention, while negative behaviors decreased. This pattern offers important contextual insight into the behavioral changes observed in response to the intervention.

Table 5. Distribution of Respondents' Actions related to Cyberbullying

Num	Actions	Pre-test				Post-test			
		Appropriate		Not Appropriate		Appropriate		Not Appropriate	
		n	%	n	%	n	%	n	%
1	When I'm upset with someone, I post something on my social media account to taunt them	64	35.1	118	65.8	7	3.8	175	96.2
2	I comment on other people's posts (photos/videos) with rude, insulting, and derogatory words when I dislike them	53	29.1	129	70.9	6	3.3	176	96.7
3	When receiving insults on social media, I will respond with the same	73	40.1	109	59.9	4	2.2	178	97.8
4	Even though I dislike someone, I do not send threatening messages through social media	111	61.0	71	39.0	177	97.3	5	2.7
5	Even though I am upset with someone, I will not express their faults on social media	125	68.6	57	31.3	177	97.3	5	2.7
6	I create a fake account to express dissatisfaction	59	32.4	123	67.6	6	3.3	176	96.7

	towards someone							
7	I prefer to express my dislike towards someone directly without having to insinuate or embarrass them through social media	111	61.0	71	39.0	177	97.3	5	2.7
8	I have shared embarrassing photos of someone I dislike on social media before	59	32.4	113	67.5	6	3.3	176	96.7
9	I do not insult someone on social media even if they insulted me first	117	64.3	65	35.7	175	96.2	7	3.8
10	I have an online group outside of people I dislike to talk about them	62	34.0	120	66.0	8	4.3	174	95.6
11	I send chat messages to my friend with harsh words if I feel upset with them	71	39.0	111	61.0	7	3.8	175	96.2
12	I never sarcastically tease my friend through chat groups, even when I am upset with them	106	58.2	76	41.8	177	97.3	5	2.7
13	I feel happy when others respond negatively to posts about someone, I dislike	66	36.2	116	63.8	6	3.3	176	96.7
14	I do not exclude dislike from groups	115	63.2	67	36.8	176	96.7	6	3.3

The cyberbullying actions reported by the respondents, as presented in Table 5, were then categorized into 2 categories: "Good" actions and "Bad" actions. The categorization of these behaviors is presented in Table 6, which displays the frequency distribution of respondents' behavioral categories before and after the health literacy intervention using TikTok. This categorization helps contextualize the observed behavioral patterns and facilitates a clearer understanding of the dataset.

Table 6. Respondent Action Categories

Categorize	Pre-test		Post-test	
	n	%	n	%
Good	163	89.6	175	96.2
Bad	19	10.4	7	3.8
Total	**182**	**100**	**182**	**100**

Table 6 shows the categories of actions related to cyberbullying divided into two, namely "Good" and "Bad" actions. The pre-test results indicate that 163 (89.6%) respondents had "Good" actions, while 19 (10.4%) respondents fell into the "Bad" action category. The post-test results show that 175 (96.2%) respondents fell into the "Good" action category, while 7 (3.8%) respondents fell into the "Bad" action category. These results indicate an increase in the number of respondents with "Good" action categories after the intervention.

The difference in students' action variables before and after the intervention using the Wilcoxon test results can be seen in the table 7. It can be observed that there was a change in the score from the pre-test (30) to the post-test (32), and this difference was statistically significant ($p = 0.000$). This finding provides an initial indication of the intervention's effect and helps contextualize the patterns presented in the following table:

Table 7. Difference in Students' Actions Before and After Health Literacy Intervention through TikTok Media

Score	n	Range	Min	Max	Mean ± SD	p-value
Pre-test	182	14-56	23	53	40.45±7.219	0.000
Post-test	182	14-56	24	56	51.60±5.405	

Table 7 shows that there has been a change in students' actions before and after the health literacy intervention using TikTok media. Thus, it can be said that there is a significant influence of health literacy through TikTok media on students' actions related to cyberbullying.

DISCUSSION

According to Olweus (2012), cyberbullying is a new form of traditional bullying or traditional bullying (20). Cyberbullying first appeared in a New York Times article in 1995, and the term was officially coined by the Oxford English Dictionary (OED) in 1998. According to the OED, cyberbullying refers to the use of information technology to intimidate or threaten someone by sending or posting intimidating or threatening texts. Cyberbullying is a form of bullying that occurs through email, instant messaging, chat rooms, websites, online gaming platforms, text messages sent via mobile phones, and other information and communication technologies (21).

Tozzo (2022) states that cyberbullying refers to any behavior carried out through digital electronic media by individuals or groups repeatedly communicating hostile or aggressive messages intended to cause harm or discomfort to others (22). Cyberbullying is also defined as a form of intimidation aimed at harming its victims through technological devices. Perpetrators can attack their victims in various ways, such as through cruel messages, disturbing images, and videos, which are then spread with the intention of humiliating the victim.

The research conducted by Hinduja and Patchin (2014) defines cyberbullying as repetitive acts intended to harm through the use of computers, cell phones, and other electronic devices. These actions refer to the use of technology to disrupt, humiliate, threaten, and engage in behavior that can lead to conflicts with peers (23).

Actions refers to an individual's response or reaction to stimuli (external stimuli). These actions occur due to the presence of stimuli on the organism, prompting the organism to respond (24). An individual's response to stimuli manifests in tangible or overt actions. The primary focus of health literacy is on actions or behavioral changes, which

also encompass changes in knowledge and attitudes to enhance or maintain health (25). The information provided to the respondents in this study involves delivering health literacy through TikTok media, which is considered an appropriate educational platform to encourage student actions in preventing cyberbullying.

The actions assessed were instances of cyberbullying behavior by the respondents, through 14 statements on the questionnaire. Based on the pre-test results of respondent actions, significant changes in behavior were observed. This is evident in statement number seven in Table 5, which reflects positive attitudes towards cyberbullying prevention actions taken by the respondents. Initially, from the pre-test results, only 111 (61.0%) respondents exhibited good behavior in preventing cyberbullying. Subsequently, after health literacy intervention via TikTok media, there was an increase observed in the post-test results, with 177 (97.3%) respondents demonstrating good behavior in preventing cyberbullying among a total of 182 respondents.

The changes in respondent behavior occurred due to the literacy process through TikTok media, which was well received and understood by the respondents. The posted videos provided verbal information that was related to the everyday lives of teenagers. Consequently, it increased the interest and motivation of the respondents to receive and remember the messages better, as video media offers a more engaging literacy process and is not monotonous, showcasing movement, images, and sound (26).

The health literacy provided to the respondents through TikTok media regarding cyberbullying actions was able to influence the respondents' actions in preventing and addressing cyberbullying behavior. TikTok, as an audiovisual media, significantly influences audiovisual education on cyberbullying behavior, as demonstrated in research conducted by Librianty (2020) (27). Lestari's (2023) study also explains that audiovisual education through the drama film 'Cry Me a Sad River' is effective in minimizing bullying actions among junior high school students (28). In their research, Rahman et al. (2019) mentioned a decrease in bullying actions among students after receiving guidance and counselling videos (29). The study by Setiawan et al. (2021) also stated that audiovisual education through short films significantly reduced bullying behavior among secondary school students (30).

Confounding factors such as prior knowledge, parental and peer influence, external exposure, and individual traits were not examined in this study; future research is therefore encouraged to consider these aspects. Similarly, external validity, which may be limited by sample characteristics, platform specificity, cultural context, and implementation factors, was not addressed in the present study. It is recommended that future studies pay closer attention to these variables to enhance the generalizability and comprehensiveness of the findings.

Limitation of the study

We only assessed the variable of actions without measuring other behavioral variables that may also be preventable using TikTok media in relation to the occurrence of cyberbullying among junior high school students. This study also did not employ a control group; consequently, intervention studies cannot confidently establish a cause-and-effect relationship. This significantly weakens internal validity because alternative explanations for the outcomes remain unaddressed. Another issue of this study is that effect sizes, such as Cohen's d or r, were not assessed. Only the p-value was reported to indicate statistical significance, which limits a more nuanced understanding of the intervention's practical impact.

CONCLUSSIONS

There was a change in the actions of junior high school students regarding cyberbullying before and after receiving health literacy using TikTok media. These findings highlight the applied potential of TikTok as an accessible and engaging medium to foster student participation in school-based cyberbullying prevention initiatives. Beyond its communicative function, TikTok can be integrated into broader digital pedagogy frameworks that leverage familiar platforms to promote prosocial behaviors and digital citizenship. By embedding health literation and behavioral interventions within media environments that students actively use, educators and policymakers can more effectively influence online conduct, reinforce preventive norms, and cultivate a participatory culture that supports safer digital spaces.

AUTHOR'S CONTRIBUTION STATEMENT

CONFLICTS OF INTEREST

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

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