

## Effect of Preventive Strategies Education on Knowledge and Practices regarding Social Media Cyberbullying among Preparatory School Students

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### Abstract

**Background:** Preparatory school students who use the internet and electronic devices have access to new socializing opportunities. However, some situations negatively impact their psychosocial health as well as psychological risks such as cyberbullying that leads to feeling of sadness, fear, and even suicidal thoughts. **Aim:** The study aimed to evaluate the effect of preventive strategies education on knowledge and practices regarding social media cyberbullying among preparatory school students. **Design:** One-group quasi-experimental design with pre-post evaluation was employed. **Setting:** Two educational zones of Sohag Governorate were represented by the four preparatory schools where the study was carried out. **Subjects:** This study comprised 250 Students enrolled in preparatory schools and recruited through a multi-stage sample technique. **Tools of data collection:** there were three tools used: Tool I: Structured Interviewing Questionnaire; Tool II: Preparatory school Students' knowledge Questionnaire; Tool III: Preparatory school Students' practices Questionnaire; Tool IV: Cyber-Aggression Scale (CYB-AGS) to assess cyberbullying practices. **Results:** After the educational intervention, the majority of the studied preparatory school students have enough knowledge and practices about social media cyberbullying prevention techniques. Furthermore, a stronger and statistically significant negative correlation was observed between knowledge and cyberbullying practices after schooling as compared to before education. Between the examined preparatory school students' total knowledge and practice scores for preventive techniques of social media cyberbullying before and after education, a highly statistically significant difference was found at  $P < 0.001$ . **Conclusion:** Preventive Strategies education was effective strategy in improving the knowledge and practices regarding social media cyberbullying among preparatory school students. **Recommendation:** Creating and implementing more ongoing educational programs to raise preparatory school students' awareness level of cyberbullying prevention techniques

**Keywords:** Cyberbullying, Preparatory school students, Preventive strategies, Social media

### Introduction:

The use of information cyber technology (ICT) by teenagers has advantages and disadvantages. In terms of advantages, it allows teenagers to communicate, obtain information, access educational resources, and strengthen social bonds. (Olweus & Limber, 2018). Cyberbullying, access to offensive content, cybercrime, and internet addiction are just a few of the risks associated with ICT use. With the use of ICT, teenagers were able to transition from traditional offline bullying to online, electronic bullying. Cyberbullying is described as a type of bullying that takes place over electronic communication channels, such as instant messaging, e-mail, cell phone, page texts, and defamatory personal websites, to injure other people and encourage a pattern of persistently aggressive

practices on the part of an individual or group (Marketing Egypt Online Competitiveness Intelligence Report, 2019; Olweus & Limber, 2018).

People routinely submit posts, photographs, comments, and other stuff that can be viewed by both acquaintances and total strangers due to the prevalence of social media and online forums. Any negative, uncomfortable, or cruel content shared online by an individual becomes an irreversible public record of their views, deeds, and practices. Cyberbullying occurs when a public record like this is accessible to organizations that undertake background checks on prospective employees, such as universities, clubs, businesses, and schools, at any

point in the future (**stopbullying.gov, 2020**).

Students in preparatory schools undergo a variety of physical, emotional, and social changes. There are many ways to conceptualize and understand this process, which emphasizes both its promise and its weaknesses. Risk practices, including the use of illegal substances, unprotected sexual encounters, violent situations, and infringing practices, might appear throughout this intricately structured stage of development that is shaped by history and society. The most prevalent of these practices in college appears to be peer violence. Because teenagers spend so much time in college, peer interactions can sometimes involve conflict, bullying, and cyberbullying (**Alencastro et al., 2020**).

Cyberbullying can be viewed as a phase in which this practice continues from infancy and adolescence into maturity. Cyberbullying is bullying that takes place online. Mobile devices, social media, chat services, and gaming platforms are all possible locations. It is a persistent practice with the intention of frightening, upsetting, or dehumanizing the targets (**UNICEF, 2020**). Teens are more prone to engage in cyberbullying because of their online anonymity and the fact that it does not involve physical power or participation in a dominating group, unlike traditional bullying (**Donat, 2019**).

Cyberbullying can be classified as either direct or indirect. Indirect cyberbullying involves multiple individuals, whereas direct cyberbullying involves the perpetrator and the target. An excellent example of indirect cyberbullying is a social media post that makes fun of someone and gets a lot of comments and shares. Indirect cyberbullying has more negative and detrimental impacts. The following lists the several forms of cyberbullying: impersonation, flame, masquerade, denigration, deceit, exclusion, harassment, and cyberstalking (**Vyawahare & Chatterjee, 2020**).

Six different social media dynamics have been identified by the research as potentially contributing to or encouraging cyberbullying. These include Social networking platforms that promise privacy or anonymity. Social media platforms encourage sharing. Social media communication is not a substitute for in-person engagement. Social media promotes a mob mentality, justice seems to entail victimizing the bully, and everyone wants likes, shares, and views (**Organisation for Social Media Safety, 2020**). Furthermore, several contributing causes to cyberbullying have been identified, such as the following: cyberbullies feel invincible, suffer peer

pressure, are bored, and bullies create more bullying. Additionally, the victim "deserves" it (**Alt, 2018**).

Long-term harmful effects of cyberbullying on the victim have been demonstrated. In addition to intense emotional states of anxiety, fear, and irritation, cybervictims also have behavioral issues, somatization, and depression (**Dredge, et al., 2019**). Due to anxiety and embarrassment over what has been shared on social media, cyber victims struggle to focus, perform worse academically, have less motivation to learn, and miss more school than usual (**Machimbarrena et al., 2018**). Because the offenders of cyberbullying are sometimes unknown, it is an important concern. Cyberbullying made its victims uneasy, anxious, depressed, and occasionally even contemplated suicide (**Kumari & Singh, 2020**).

Parents should increase their social media participation, comprehension, and knowledge while also keeping an eye on current developments. Check out how much time teens spend on the internet at home or school. Teenagers who exhibit abrupt shifts in mood that are associated with technology should be watched out for. These mood swings can include withdrawal, loneliness, lack of drive, altering routines or friends, refusing to speak, altering social activities, altering diet, or changing personal cleanliness. Promote candid communication, find out more about cyberbullying, and let them know that you recognize the importance and circumstances surrounding it (**Florang, 2019**).

In response to the Egyptian campaign "Ending Violence Against Children" (**UNICEF Egypt, 2018**) and Egypt's 2030 SDGs, which address bullying and emphasize the need to upgrade a culture of peace and non-aggression, improve human rights knowledge and skills, and end trafficking, abuse, mistreatment, and all forms of violence against adolescents, the current study was necessary (**UNESCO, 2017**).

Research indicates that cyberbullying is linked to a multitude of detrimental outcomes for both the bullies and the victims, so strategies for stopping and intervening in cyberbullying are required in our schools. The likelihood of drug use, poor academic performance, and other maladaptive behaviors is higher among those who bully others online. People who experience cyberbullying are also more vulnerable to a variety of unfavorable consequences. For instance, victims are more prone to use alcohol and drugs later in life. A general concern of not knowing who at school might be the bully may also cause them to refuse to go to school or miss classes out of fear of running into their bully. Academic performance issues may potentially result from this.

In addition, there could be further issues at school, such as missing class, getting more detentions and punishments, and having a higher chance of the student bringing a weapon to class (Tokunaga,

2020).

#### Summary of Cyberbullying Prevention Strategies

Strategy Number	Highlight of strategy	Strategy stated on the questionnaire
1	No computer use in school and home for the offender	Cyberbullies would not be allowed to use the computer at home and school. Any assignments for school that required using the library would have to be done at the library using books.
2	Sending offender to another school	Sending cyber bullies to an "alternative" school away from their regular school as punishment.
3	Parents taking away offenders' computers and cell phones	Parents would take away a cyberbully's cell phone and computer.
4	Offender paying victim money	Cyberbullies would have to get a job and pay money to the person they bullied online.
5	One year delay to a year college for the offender	Repeat cyberbullies would not go to 4-year colleges. They would have to spend at least one year at a community college before going to a 4-year college. It would not matter how well they did in high school.
6	No access to social networking sites for Offender	Cyberbullies would not be allowed to use social networking sites such as Myspace.com.
7	Offenders attending netiquette classes on Saturdays	Cyberbullies would have to attend netiquette classes on Saturdays for several weeks.
8	20 hours of community service for offender	Cyberbullies would have to do at least 20 hours of community service.
9	No extracurricular activities for the offender	Cyberbullies would not be allowed to participate in after-school activities such as sports.
10	Offender doing presentation about cyberbullying	Cyberbullies would have to create a presentation about the effects of cyberbullying. They would have to let others know why they should not do what they did.
11	Telling students in class what to do as a victim	Telling teenagers in a class what to do if bullied online.
12	Setting clear rules and enforcing penalties on Offender	Having clear rules for preventing cyberbullying and enforcing penalties on cyberbullies.
13	Having written a policy of zero tolerance for Bullying	Written policies in schools say online bullying will not be tolerated.
14	Ongoing cyberbullying prevention programs	Cyberbullying prevention programs, which are not one-time assemblies, instead are ongoing programs that take place for the entire school year. Students participate in activities to help raise their awareness about cyberbullying and learn skills to prevent cyberbullying.

It is vital to not minimize, shy away from, or avoid discussing problems related to cyberbullying. Don't exaggerate or magnify the negative consequences of cyberbullying. Promote helpful strategies without imposing penalties (such as taking away electronics or deleting social media accounts). Students should create a welcoming environment where anyone is willing to intervene to put an end to cyberbullying. Make safety plans and take appropriate steps to stop cyberbullying. University, legal, healthcare, and social media providers should push for the enactment of legislation against cyberbullying. It is important to model, practice, act out, and teach inappropriate cyber-regulation techniques. Motivate appropriate responses to cyberbullying (Florang et al., 2018).

The greatest method to stop cyberbullying before it becomes a problem is to have a face-to-face conversation with someone about it. The following ideas can help put an end to cyberbullying: Discuss cyberbullying with young people. Have a "house rule" saying that no one is allowed to use any social media platform to say anything nasty. Children should be encouraged to tell an adult if they come across cyberbullying. Advise them to use caution when creating passwords. Tell them that messages sent via electronic means are not always secure. Warn your kids not to post personal information online. Refrain from allowing kids to use the internet in their beds, and consider creating a "home rule" that says kids have to give their electronics to a parent at bedtime (Alt, 2018).

### Significance of the study

Given how frequently teenagers and young adults use technology, social networks, and mobile devices, it is only expected that this number will increase. According to recent studies, the percentage of people who have experienced cyberbullying at some point in their lives has doubled, from 18% in 2007 to 36% in 2019. Given this, investigating the origins, strategies, and countermeasures of cyberbullying is essential (Patchin, 2020). It was found that out of almost 600 elementary school students in Egypt, 21.7% reported bullying others, 28.6% reported being bullied, and 9.5% identified as both bullies and victims (Zych et al., 2017).

Because they have suicidal thoughts and attempts, cyber victims unfavorably upset families and the social environment at large. According to reports, between 10 and 42% of students experience cyberbullying, making it an increasing global concern (Kasahara et al., 2019). According to Barrett & Chamberlin, (2017), the age range where cyberbullying is most prevalent is between 12 and 16 years old. Adolescence also marks the peak period

for cyber victimization. Between 2009 and 2016, there was a significant increase in Egypt's digital society, with 12.3 million regular internet users rising to 29.84 million (Ministry of Communications and Information Technology, 2016).

### Aim of the study:

The study aimed to evaluate the effect of preventive strategies education on knowledge and practices regarding social media cyberbullying among preparatory school students

### Research hypotheses:

- H1: Preparatory school students' mean knowledge score will be significantly higher after preventive strategies education than before intervention.
- H2: Preparatory school students' mean social media cyberbullying practices score will be lower after preventive strategies education than before intervention.
- H3: There is a correlation between knowledge and social media cyberbullying practices among preparatory school students.

### Subjects and Method

#### Research design:

One-group quasi-experimental design with pre-post evaluation was employed

#### Research setting:

The two educational zones of Sohag Governorate were represented by the four preparatory schools where the study was carried out.

#### Sample:

In this study, 250 students enrolled in preparatory schools and recruited through a multi-stage sample technique

#### Tools of the study:

**Tool I: Structured Interviewing Questionnaire:** It has two parts as follows:

**Part one:** Personal data of preparatory school students such as age, gender, and residence,

**Part two: Social media cyberbullying-related data** such as Have you ever heard of cyberbullying? Have you ever been cyberbullied? (SurveyMonkey, 2020).

**Tool II: The preparatory school students' knowledge Questionnaire** was developed and written in the Arabic language by the researcher after reviewing relevant literature (Arafa & Senosy, 2017; Extremera et al., 2018 Wikipedia, 2020). There were six elements in total: the What cyberbullying? Reasons behind online cyberbullying, Cyberbullying's psychological effects, how to respond to online cyberbullying, Impact of cyberbullying on academic achievement, and Methods for Preventing Online Bullying.

#### **Scoring system:**

The following tool was used to grade the study student's knowledge: 0 for unknown or erroneous answers, 1 for incomplete correct answers, and 2 for complete accurate answers. Every correct response, which varied depending on the question, had to be chosen by the students. Unsatisfactory knowledge was defined as less than 60% of the total knowledge score, while satisfactory knowledge was defined as more than 60% of the total knowledge score.

**Tool III: The preparatory school students' practices Questionnaire:** it created and composed by the researcher in Arabic language after a reviewing of pertinent literature (Extremera et al., 2018; Patchin, 2020; and Wikipedia, 2020). It consisted of 14 items about strategies practiced to confront cyberbullying

#### **Scoring system:**

Students who participated in the study were given scores based on their knowledge: 0 for an incorrect response and 2 for a correct response. Every correct answer, which varied for every question, had to be chosen by the students. Low practices accounted for less than 60% of the total practice score, whereas high practices equaled or less than 60% of the total practice score. This is how the overall score was classified.

**Tool IV: Cyber-Aggression Scale (CYB- AGS):**it created by

Buelga et al., (2020). It counted the number of times a student had engaged in cyberbullying throughout the preceding year. It has eighteen things in total, split into ten categories. The updated CYB-AGS scale includes eight new items that relate to new cyberbullying behaviors to evaluate both direct and indirect cyberbullying. "Direct cyber-aggressions" are deeds, words, and social attacks directed specifically against another person. Hackers, identity theft, and information manipulation are a few instances of indirect cyber-aggressions.

#### **Scoring system:**

A five-point Likert scale, ranging from 1 (never) to 5 (always), was used for the questionnaire. The total score was split into the following categories: A cyberbullying score of less than 60% indicates mild cyberbullying, a score of 60–75% indicates moderate cyberbullying and a score of less than 25% indicates high cyberbullying.

#### **Validity:**

A panel of two professors from Sohag University's pediatric nursing department and three assistant professors from the department of community health nursing were included. They were asked to provide their thoughts after having the tools inspected to assess the accuracy of the information they contained. There were no changes made.

#### **Reliability:**

Cronbach's alpha coefficients for the Cyber-Aggression Scale, Structured Knowledge Questionnaire, and Structured Practices Questionnaire were shown to be, respectively, 0.89, 0.86, and 0.87.

#### **Pilot study:**

A total of 25 students, or 10% of the sample, were included in the study sample. to assess the visibility and clarity of the tools. This was done to estimate the time needed to complete the research instruments and to determine the importance, clarity, and practicability of the tools utilized. As a result, nothing was changed.

#### **Ethical considerations:**

The Sohag University Faculty of Nursing's Scientific Research Ethics Committee gave its approval to the study protocol. The researchers gave each student a brief description of the purpose of the study and assured them that the information gathered would be kept private and used only for that purpose. Students can stop doing research at any time. For them to take part in the study, verbal assent was required.

#### **Fieldwork:**

##### ***The following order was used to collect the data:***

Official approval to conduct the study was secured after outlining its objectives to the dean of Sohag University's faculty of nursing. The study's objectives were then explained, anonymity was ensured, and verbal informed consent was obtained by conducting a structured interview with nursing students who qualified for it. The six-month data collection period was from April 2023 to

May 2023.

Procedures: The stages of the educational program were as follows:

**The phase of Assessment:** Before putting the proposed program into action, a baseline student data collection was carried out by conducting interviews with each nursing student using all of the available study tools.

**The phase of Implementation:** Every research subject was provided with the program. Four groups were created out of these. The program was put into place to educate the pupils and encourage appropriate practices when it came to cyberbullying. Program objectives were the main focus of the program's clear and succinct presentation, which also included relevant media including data displays, printed booklets, and role-playing, along with a variety of instructional strategies such as customized lectures and small group discussions. One researcher presented the sessions for one educational grade, three days a week, from 10 a.m. to 12 p.m., as the researchers assembled and implemented the program at each preparatory school. As a result, two months were allotted to implement the program for the four preparatory schools that were chosen (2 weeks/school).

Sessions lasting roughly 30 to 45 minutes each, with a 10-minute break, were how it was put into practice. The curriculum included both group discussions and formal lectures. Depending on the time slots available for each group each week, five sessions were attended. The title and purpose of each session varied based on the subject matter. Cyberbullying was the subject of an overview in the first session, which was conducted during the assessment phase. Cyberbullying definition, causes, and high-risk groups were covered in the second session, and cyberbullying consequences for individuals and communities were covered in the third. Cyberbullying prevention tactics are covered in the fourth session, and post-assessment data is gathered in the fifth session, which summarizes the information from all previous sessions. The instruction booklet was given to every research participant.

A booklet that includes the program's content, written in easy Arabic and with pictures and diagrams to help students comprehend it. The following preventive educational resources were made especially for the program: a flipchart, a brochure, an interactive lecture, questions and discussion, a film, and real-world examples. Each session concluded with a discussion of the questions raised by the nursing students to clear up any misconceptions. To ensure that the students understood the program content, each session ended with a summary of the material that had been covered at the beginning in simple language that was understandable to all of students.

**Evaluation Phase:**

Immediately after the implementation of the program, each student in the study was asked to evaluate knowledge using Tool II: (knowledge Questionnaire) and (Tool III: practices Questionnaire) Cyber-Aggression Scale (CYB-AGS). Tool IV: After finishing the program, the researchers took students' feedback about the program

#### **Statistical analysis:**

Version 25.0 of the Statistical Package for Social Science (SPSS, Chicago, IL) was used for data entry and statistical analysis. Descriptive statistics were used to present the data, with means and standard deviations for the quantitative variables and frequencies and percentages for the qualitative ones. The chi-square test was used to compare qualitative category variables. The continuous data had a normal distribution. An adolescent's t-test was utilized to identify comparisons between two variables with continuous data, while one-way ANOVA was employed for variables with more than two variables. Two quantitative variables that are normally distributed can be correlated using the Pearson coefficient. P-value < 0.05 was used to determine statistical significance, and < 0.001 indicated extremely significant results.

#### **Results:**

The study's student personnel data is displayed in Table 1, where it can be seen that the average participant age was (13.33±1.99) years. Also, it reveals that 70% of respondents lived in rural areas and 60% of respondents were female.

According to Table 2, 75% of students in preparatory schools had never heard of cyberbullying, and 60% had never experienced it themselves. Furthermore, 80% of respondents indicated they had never engaged in cyberbullying, and 60% believed that men were more likely to be victims of cyberbullying.

Table 3 illustrates the high statistically significant variations in mean knowledge scores between pre- and post-preventive strategies education preparatory school students (P<0.001\*\*).

As seen in Figure 1, the majority of preparatory school students (90%) had satisfactory overall awareness of cyberbullying following preventive strategies education, compared to 80% who had unsatisfactory overall knowledge before the program.

Table 4 shows that among kids attending preparatory schools, there was a highly statistically significant mean score difference between the pre-and post-educational phases of total cyberbullying.

Figure 2 illustrates that sixty percent of the

preparatory school students under study had high practices before the program. but dropped and eventually reached 5% following preventive strategies education.

According to Figure 3, 66% of the preparatory school students under study had high practices before receiving preventive strategies education. After receiving preventive strategies education, this percentage dropped to 4%.

The link between the mean score of all cyberbullying knowledge among the studied preparatory school students and their personnel data before and after preventive strategies education is shown in Table 5. It indicates that there were statistically significant differences in the students' ages after learning preventive strategies compared to before, but not in the students' ages after preventive strategies education.

Table 6 shows that about the mean score for all cyberbullying practices before and after preventive strategies education, there were only statistically significant differences in residence following preventive strategies education. However, there were no statistically significant differences regarding other items.

Table 7 demonstrates that, when comparing the knowledge and cyberbullying practices of the examined preparatory school students before and after receiving preventive measures instruction, only a highly statistically significant negative connection was discovered.

Table 8 displays the opinions of preparatory school

students on the purpose, substance, teaching techniques, and media used in preventive strategies. Eighty-four percent of them (84%) said they thought the objectives of the preventive strategies were outstanding, and eighty-six percent said that the teaching methods utilized were sufficient.

**Table (1): Preparatory school students distribution concerning personnel data (n=250).**

Variables	Frequency	%
<b>Age in years</b>		
12-<13	50	20.0
13-<14	75	30.0
14-<15	100	40.0
≥15	25	10.0
Mean ±SD	13.33±1.99	
<b>Gender</b>		
Male	100	40.0
Female	150	60.0
<b>Residence</b>		
Rural	175	70.0
Urban	75	30.0

**Table (2): Preparatory school students' distribution concerning their social media cyberbullying-related data (n=250)**

Items	Frequency	%
<b>Have you heard of cyberbullying?</b>		
No	188	75.0
Yes	62	25.0
<b>Have you been cyberbullied?</b>		
No	100	60.0
Yes	150	40.0
<b>Have you ever done cyberbullying?</b>		
No	200	80.0
Yes	50	20.0
<b>From your point of view, cyberbullying is more prevalent among</b>		
Male	150	60.0
Female	100	40.0

**Table (3): Preparatory school students' knowledge mean scores pre- post preventive strategies education (n=250).**

Variables	Pre-preventive strategies education	Post-preventive strategies education	Paired t-test	P value
What cyberbullying?	1.66±0.89	4.64±0.86	-212.22	<0.001**
Reasons behind online cyber bullying	1.46±0.84	4.76±0.84	-776.33	<0.001**
Cyberbullying's psychological effects	1.87±0.67	4.78±0.67	-123.40	<0.001**
How to Respond to online cyber bullying	1.44±0.77	4.33±1.46	-78.74	<0.001**
Impact of cyberbullying on academic achievement	1.99±0.66	3.87±0.65	-25.67	<0.001**
Methods for Preventing Online Bullying	1.77±0.45	3.79±0.88	-26.78	<0.001**
<b>Total knowledge</b>	10.67±2.56	26.45±2.57	-283.202	<0.001**

<0.001\*\* highly significant

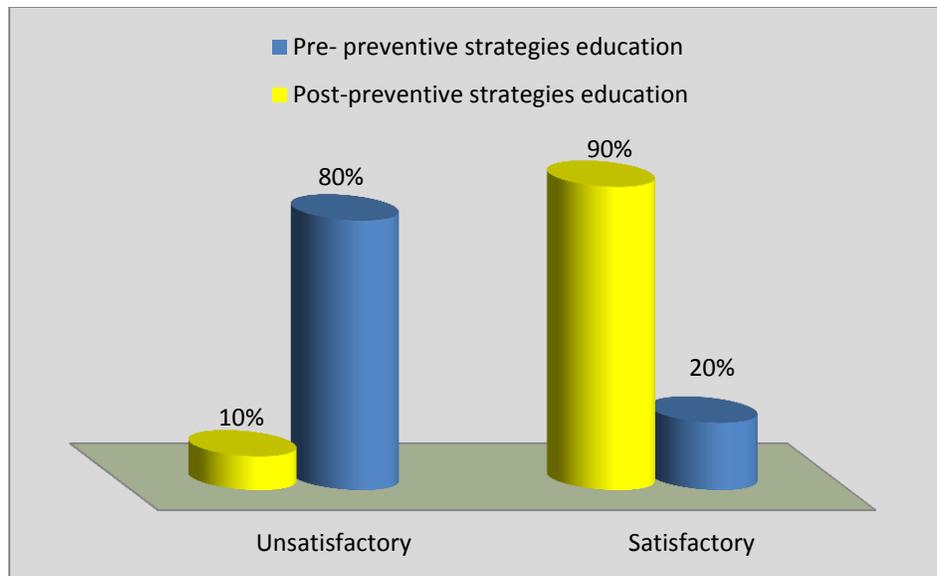


Figure (1): Total knowledge score about cyberbullying among the studied preparatory school students’ pre and post-educational intervention (n=250)

Table (4): Preparatory school students' practices mean scores pre -post educational intervention (n=250).

Variables	Pre-educational intervention	Post-educational intervention	Paired t-test	P value
Total Cyberbullying	65.55±14.33	26.78±10.67	-56.22	<0.001**

<0.001\*\* highly significant

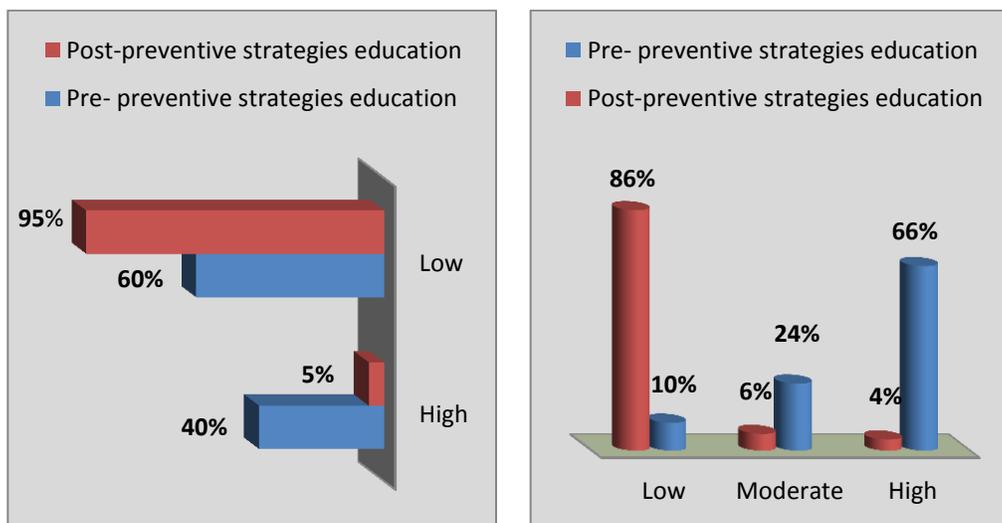


Figure (3): Total cyberbullying level based on Cyber-Aggression Scale pre and post-educational intervention (n=250)

**Table (5): The relation between personnel data of the studied preparatory school students and their total cyberbullying knowledge mean score pre and post-preventive strategies education (n=250).**

Variables	Pre-preventive strategies education knowledge score			Post-preventive strategies education knowledge score		
	Mean ±SD	Statistical test	P value	Mean ±SD	Statistical Test	P value
Age in years						
18-<19	10.66±2.076	1.63	>0.05	26.33±2.523	2.55	<0.05*
19-<20	10.55±2.534			26.44±2.457		
20-<21	10.44±2.490			26.22±2.345		
≥21	10.83±2.476			26.66±2.356		
<b>Gender</b>						
Male	10.65±2.43	0.135	>0.05	26.13±2.56	1.06	>0.05
Female	10.66±2.57			26.34±2.87		
<b>Residence</b>						
Rural	10.44±2.35	0.356	>0.05	26.22±2.55	0.554	>0.05
Urban	10.55±2.45			26.33±2.56		

<0.05\* statistical significant

>0.05 not statistical significant

**Table (6): The relation between personnel data of the studied preparatory school students and their total cyberbullying practices mean score pre and post preventive strategies education (n=250).**

Variables	Pre- preventive strategies education knowledge score			Post- preventive strategies education knowledge score		
	Scale	Statistical Test	P value	Scale	Statistical test	P value
Age in years						
18-<19	25.69±12.67	0.976	>0.05	64.57±15.052	1.62	>0.05
19-<20	25.45±11.89			62.59±15.45		
20-<21	25.89±8.69			61.45±15.79		
≥21	25.54±12.54			63.78±12.78		
<b>Gender</b>						
Male	25.56±10.88	0.562	>0.05	62.28±15.78	1.07	>0.05
Female	25.65±11.66			63.67±14.66		
<b>Residence</b>						
Rural	26.00±11.79	0.78	>0.05	62.55±15.88	2.19	<0.05*
Urban	25.22±10.79			63.33±14.79		

<0.05\* statistical significant

>0.05 not statistical significant

**Table (7): Correlation between total cyberbullying knowledge and cyberbullying practices scores of the studied preparatory school students pre and post preventive strategies education (n=250)**

Knowledge	Cyberbullying	
	R	P value
Pre- preventive strategies education	-0.064	>0.05
Post- preventive strategies education	-0.0453	<0.001**

<0.001\*\* highly statistically significant >0.05 not

**Table (8): Preparatory school students opinion regarding preventive strategies ' objective, content, teaching methods and media used (n=250).**

Items	Poor		Good		Excellent	
	No.	%	No.	%	No.	%
<b>1-The objectives of the preventive strategies were clear:</b>						
Yes	0	0.0	38	16%	212	84%
<b>2- The content of the preventive strategies was comprehensive and benefit:</b>						
Yes	0	0.0	35	14%	215	86%
<b>3- Teaching methods and Teaching aids were Sufficient</b>						
Yes	0	0.0	25	10%	225	90%

## Discussion:

The prevalence of cyberbullying among teenagers in middle and high school has been rising quickly, and it has the potential to negatively impact them in several ways (Hutson et al., 2018). Serious side effects could include low self-esteem, clinical depression, frustration, sorrow, rage, emotional, behavioral, and scholastic challenges, bad family relationships, difficulty communicating socially, social isolation, anxiety, and even suicide. (*Aizenkot & Kashy-Rosenbaum, 2019*).

It is acknowledged that cyberbullying has detrimental effects on both cyber bullies and cyber victims. Adolescents who engage in cyberbullying suffer negative consequences such as feeling ashamed of who they are, feeling unsatisfied with life, and wanting to exact revenge or take anger out on their victims. Additionally, the majority of victims of cyberbullying are nervous, have low self-esteem, are frequently distracted, and are more likely to attempt suicide (*Alotaibi, 2019*). Overcoming cyberbullying requires understanding cyber-bullying. Thereupon, the present study was carried out to determine the effect of preventive strategies education on knowledge and practices regarding social media cyberbullying among preparatory school students.

The present study's findings indicated that, based on the preparatory school students' personnel data, it was found that, of them, three-fifths and over two-fifths lived in metropolitan areas. The findings of *Hassan et al., (2019)*, who noted that nearly one-third of the participants lived in cities, did not align with these results. Furthermore, about two-thirds of students in preparatory schools were discovered to be female, according to the current study. These results did not align with the findings of *Khine et al., (2020)*, which reported that 135 female students (32.77%) out of 412 total students took part in the research.

Three quadrants of study preparatory school students had not engaged in or been the victim of cyberbullying, according to the results of the current study. The results aligned with those of *Floros et al., (2018)*, who discovered that 14.6% of the participants engaged in cyberbullying, and 28.3% of them were victims of cyberbullying. According to *Dilmac, (2019)*, a total of 22.5% of pupils have engaged in cyberbullying.

In addition, over half (49.5%) of the 2186 students reported having been bullied online, and 33.7% reported bullying others. These results differed from those of a study by *Mishna et al.,*

(2020), which found that engaging in cyberbullying behavior was significantly less common than being exposed to cyberbullying. Furthermore, a study conducted in 2018 by Toraman & Usta revealed that very few middle school kids engaged in cyberbullying.

According to three-fifths of the prep school students surveyed for this study, boys are more likely than girls to experience cyberbullying. This could be because men are more likely to react to stressful situations by displaying direct forms of hostility and confrontation, whereas women are more likely to react by avoiding difficult situations. This could be because, in the context of online behavior, women were subject to greater parental supervision than men, whereas men are free to act whatever they like in society and are not subject to extensive supervision or restriction. On the other hand, women's conduct is more tightly regulated. According to this finding, there may be a gender difference in the sample's incidence of cyberbullying. Therefore, to address cyberbullying, men should be the main target.

*Khamis, (2019)* found that boys were more likely than girls to be bullied, which is consistent with this conclusion. Cyberbullying has been demonstrated to differ significantly by gender, with males experiencing it more frequently than females, according to a different study by *Al Qudah et al., (2020)*. In a similar vein, a Korean study conducted by *Cho & Wouldredge, (2016)* showed that boys were more likely to become victims of bullying. Furthermore, *Ciftci, (2018)* highlighted that victims were men rather than women. However, *Pekşen & Oktay, (2018)* emphasized that there was no discernible difference between the sexes. In addition, data indicate that women were less likely than men to engage in cyberbullying (*Safari, 2016*). As well, a study carried out by *Dorio et al., (2019)*, and publicized an advanced engagement level in cyberbullying behavior among males.

*Eroğlu et al., (2015)* claimed that women were more likely than men to engage in cyberbullying behavior, which contradicted the results of previous studies. However, as *Balakrishnan, (2015)* made clear, there was no correlation between the sexual role variable and the act of cyberbullying. Furthermore, these results are inconsistent with an Egyptian study (*Arafa & Senosy, 2017*) who indicated a statistically significant increase in the incidence of cyberbullying victimization among female students.

The present study revealed that represents that there were highly statistically significant differences

between the mean preparatory school students' knowledge scores in pre- and post-preventive strategies education. From the researcher's point of view, it reflected the positive effects of preventive strategies education.

When it came to the knowledge that preparatory school students had regarding cyberbullying, there was a knowledge gap before the implementation of the preventative methods of education. This might be attributed to the lack of educational programs that provide the necessary information about cyberbullying to students. Following the implementation of the preventive strategies education, the majority of students demonstrated a sufficient level of knowledge, thereby confirming the validity of the research hypothesis I and showing that students in preparatory schools gain more knowledge when the material is presented in an easier-to-understand manner. Our results are consistent with those of **shack & Colmar, (2019)** who discovered that the girls' overall awareness of cyberbullying and safety precautions rose after the program's implementation.

The results of the current study revealed that, in comparison to earlier, the knowledge scores of the investigated preparatory school pupils are much higher following the adoption of preventative methods of education. After receiving an educational intervention utilizing the cyber-bullying prevention program "Media Heroes," the study's preparatory school pupils' awareness of cyberbullying improved, according to the findings. The results of a study conducted by **Abdul-Wahab et al., (2019)** under the title "The use of multimedia in increasing perceived knowledge and awareness of cyber-bullying among adolescents: A pilot study" support this conclusion. They found that the implementation of an interactive multimedia cyberbullying program increased adolescents' perceived knowledge and awareness of digital bullying.

**Kalender, (2018)** highlighted the need to raise students', teachers', administrators', and parents' knowledge of the issue of cyberbullying. Furthermore, **Bauman (2019)** suggested direct instruction in appropriate online conduct and cyberspace behavior; methods include reporting manipulation along with blocking offenders and anti-bullying school tactics that unquestionably portray cyberbullying as a prohibited activity. Accordingly, **Chaux et al., (2016)** found that after applying a Media Heroes prevention program, there was an increase in empathy and knowledge of the risks and importance of strategies that allow to defend victims from cyber-bullying. The study was titled "Assess the effects of the cyber-bullying prevention program

Media Heroes on traditional bullying."

The current study's findings showed that most preparatory school students had inadequate overall awareness about cyberbullying before receiving instruction in preventive techniques, but that most of them had excellent overall knowledge following such instructions. This suggests that the members of this age group have a high level of media exposure overall and use gadgets daily, often with little thought given to the ramifications of their actions. Regretfully, not every adolescent has access to the benefits that come with technology. Therefore, teachers and families alike must inform teenagers about the potentially serious repercussions of engaging in cyberbullying behavior for both themselves and their surroundings.

According to **Kalender's (2018)** study, "Cyberbullying awareness in Secondary and schools," children were found to lack sufficient information about appropriate behavior in the cyber realm. Furthermore, the use of a multimedia program increased the teenagers' perceived awareness and knowledge score in the post-test as compared to the pre-test, according to **Abdul-Wahab et al. (2019)**.

In a similar vein, research by **Thinnukool et al., (2018)** on "The use of cyber-bullying mobile application to increase perceived knowledge of cyber-bullying among adolescents" showed that adolescents lacked sufficient understanding of this issue. In the same vein, **Ang, (2015)** noted that studies linked cyberbullying to teenagers' ignorance of rules governing online behavior as well as a lack of adequate parental supervision and parental mediation.

According to the current study's findings, there was a highly statistically significant mean score difference between the preparatory school students' pre- and post-education on preventive techniques and total cyberbullying practices. The effectiveness of preventative methods of education, which improved knowledge and reflected in the researchers' activities, was validated, according to the researchers.

The study found that there was a significant statistical difference in the mean score of total cyberbullying behavior between the pre and post-preventive strategies education groups of the students under investigation. This finding supports research hypothesis II and suggests that the education of preventive strategies was more important in bringing about this improvement. According to **Fraguas et al. (2020)**, anti-bullying programs were successful in reducing bullying in general. These findings are consistent with their findings. Additionally, a meta-

analysis by *Gaffney et al., (2019)* on differences in the efficacy of anti-bullying programs worldwide and among particular programs for schools revealed that, on the whole, these programs were successful in lowering the incidence of bullying in schools, both as perpetrators and victims.

This finding is consistent with *Hamal, (2017) & Alslman (2019)*, who stated that there was a significant association between age and cyberbullying. The relationship between the studied students' total cyberbullying knowledge mean score and their personnel data pre and post-preventive strategies education revealed statistically significant differences in age post-preventive strategies education.

There were statistically significant differences in the students' personnel data before and after receiving instruction on preventive techniques regarding domicile when examining the relationship between the mean score of all cyberbullying practices among the examined students and this information. Our findings are in line with those of *McQuillan (2016)*, who discovered that children who lived in urban regions had a higher likelihood of being victims of cyberbullying than children who lived in rural or suburban areas. Furthermore, gender-related differences were not statistically significant, according to this study. In contrast to this conclusion, *Zalaquett and Chatters (2014)* found that there was a gender difference in the incidence of cyberbullying in college, with 15.5% of females reporting cyberbullying compared to 3.6% of males. Similarly, research by *Robers et al., (2015)* revealed that while more male students report being physically harassed and threatened with harm, a greater proportion of female student's report being bullied at school.

Additionally, the study's findings demonstrated a relationship between the preparatory school students' pre- and post-preventive techniques education scores and their overall understanding of cyberbullying and cyberbullying practices. Research hypothesis III was supported by the finding that there was a highly statistically significant negative association between the knowledge and cyberbullying behavior of the studied students' post-program, but not during the pre-program. This means that if students are aware of cyberbullying, their behavior will be lessened, and vice versa. This demonstrated the effect of preventative education tactics in teaching students in preparatory schools about the negative effects of cyberbullying, which encouraged them to adopt safer practices.

This result was in line with the findings of *Wölfer et al., (2014)*, who discovered that the teens in the intervention group significantly reduced their tendency to engage in cyberbullying after applying the cyberbullying awareness program. Furthermore, *Cantone, (2015)* found that interventions were successful in lowering bullying.

The current study's findings revealed what preparatory school students thought about the purpose, content, and media used in preventive strategies. Most of them had excellent opinions about the strategies' objectives and the adequate use of teaching methods. According to the researchers, it validated the effectiveness of teaching preventive techniques, which satisfied the study's objective.

There is evidence that certain discrete elements of anti-bullying and/or anti-cyberbullying initiatives can lower bullying and victimization rates (*Ttofi and Farrington, 2019*). According to research, several program elements and protective variables appear to have the greatest impact on lowering victimization and bullying.

These outcomes are in line with a review by *Elsaesser et al., (2017)* of parental roles and youth cyberbullying, which discovered that specific mediation techniques for limiting youth access to the Internet and other technologies were more successful than imposing general limitations. Furthermore, studies have indicated that it is critical to lessen bullying and that program intervention tactics that focus on parents are among the most successful ways to address bullying (*Ttofi and Farrington, 2019; Roberto et al., 201 & Hutson et al., 2018*).

There has been research on additional intervention techniques for lowering bullying and cyberbullying. Positive results from project-based learning tactics to combat cyberbullying include improved vocabulary, knowledge, and awareness of the repercussions of online behavior (*Chen, 2018*). Furthermore, studies have shown a decrease in the prevalence of cyberbullying and the susceptibility to it due to anti-cyberbullying messaging, policies, and practices that encourage young people to use the Internet safely and seek out social support for cyberbullying issues (*Ortega-Ruiz et al., 2018; Savage et al., 2017*).

Approaches centered on traditional bullying in schools are another way to lessen cyberbullying behaviors. While there may be differences in definitions between conventional and cyberbullying (Selkie et al., 2016), general bullying prevention programs have also been shown to reduce cyberbullying and cyber victimization (Gradinger et al., 2020). To reduce traditional bullying perpetration and victimization, Tofī and Farrington, (2019) found that implementing disciplinary methods (such as depriving special privileges and having stern discussions with bullies), teacher training, classroom management, and cooperative group work was effective. This was based on a meta-analysis of anti-bullying programming.

Although there was a lot of overlap between traditional and cyberbullying bullying, research indicates that cyber victimization has significant detrimental effects even when traditional victimization involvement is controlled for (Perren et al., 2020). This suggests that attempts to prevent and/or intervene specifically in cyberbullying are necessary, but researchers point out that they haven't been thoroughly studied up to this point (Tanrikulu, 2018). Particularly, the elements of intervention programs and techniques for cyberbullying have been the subject of two recent systematic evaluations. (Hutson et al., 2018; Tanrikulu, 2018). According to Hutson et al. (2018), Enhancing digital citizenship, teamwork, communication, and social skills, empathy training, cyberbullying education, coping skill enhancement, and peer mentorship are among the program components that are most frequently put into practice. Tanrikulu , (2018) discovered, however, that there was no discernible pattern of shared program elements, and that the program's theoretical foundation, duration, and cyberbullying measurement tools differed greatly. Because programming varies so much, it is challenging to compare and identify the most successful programs.

Several intervention programs have been developed in response to the rise in cyberbullying to lower cyber victimization and perpetration. The following is a summary of the features of cyberbullying interventions provided by systematic reviews (Hutson et al., 2018; Gaffney et al., 2019; Lan et al., 2022; Ng et al., 2022; Polanin et al.,

2022). Interventions take many different forms, ranging from one-time sessions to year-long courses, and are typically implemented in educational environments.

Anti-cyberbullying programs primarily target upper primary and secondary school age groups, however, some anti-bullying programs with cyberbullying aspects focus on lower primary school pupils (Villarejo-Carballido et al., 2019).

Very little to tiny, modest effects were observed by meta-analyses of anti-cyberbullying initiatives (Gafney et al., 2019; Lan et al., 2022; Ng et al., 2022; Polanin et al., 2022). The results that were measured and the effectiveness of the education program intervention (Garandeanu et al., 2022; Vlaanderen et al., 2020; Wang, 2021).

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### Conclusion:

Based on research hypotheses and study results, the current study indicated that the preventive strategies education was effective strategy in improving the knowledge and practices regarding social media cyberbullying among preparatory school students. A highly statistically significant negative connection was discovered when comparing the knowledge and cyberbullying practices of the examined preparatory school students before and after receiving intervention.

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### Recommendations:

*In light of the study's findings, the following recommendations are made.*

- Creating and implementing additional ongoing educational initiatives to raise students' awareness of cyberbullying prevention techniques.
- It is strongly advised that similar particular investigations be repeated at several settings with large probability samples.

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