Developing, Implementing, and Evaluating an Intervention Program on Cyberbullying for Teachers

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Abstract—The current study presents an intervention program for coping with cyberbullying (CB) that has been developed and implemented among teachers. The paper presents the key elements of the program that provides teachers with knowledge and tools to cope effectively with CB events, as well as the findings of the study conducted to assess the program’s impact on the teachers’ knowledge, perceptions, and sense of self-efficacy. The study included 59 teachers (76% females) of students in grades 7-9, who were included in a workshop focusing on imparting knowledge and raising awareness of CB, its implications and risks, and skills for coping. When the teachers’ perceptions and attitudes were examined after the program, findings show they knew more about CB, were better able to identify its signs, and reported higher levels of self-efficacy and the acquisition of concrete tools to assist their students. The study pointed toward the need to pay special attention to students with attention deficit hyperactivity disorder (ADHD), and providing coping tools to teachers who integrate students with ADHD in their classes seems. An expansion of the implementation of the program for additional, larger population of teachers is recommended.

Index Terms—cyberbullying, intervention program, teachers, ADHD

I. INTRODUCTION

A. Cyberbullying

Today’s students, both pre-teens and teenagers, are born into a reality in which the online social environment is an inseparable part of their space in many areas. On the one hand, online communication has brought significant benefits to social communication, learning, and teaching; on the other hand, because of its unique characteristics, considerable dangers for students lie beneath its surface [1]-[2], one of the most prominent of them being CB. Students and teachers alike are now required to deal with the CB phenomenon on a daily basis [2]. Studies show that in 5th and 6th grades, children begin to report online vulnerability, and the phenomenon appears to reach its peak around grades 7-9, during the middle school years [3] [4].

Cyberbullying is defined as a form of interpersonal aggression that occurs online through electronic means, is most common among adolescents, and has diverse negative socio-emotional and scholastic impacts [5]-[6].

A comprehensive review of studies among youth (using three bibliographic databases searching papers from 2004-2014 containing 159 studies) revealed the highest median prevalence of CB was found in Canada (25.8%, varying between 1.9% and 65.0%) and China (24.0%, varying between 11.2% and 56.9%). The lowest median prevalence was observed in Australia (6.0%), Sweden (6.2%), and Germany (6.3%) [7].

The answer to the question of why hurting people on the internet is easy lies in the unique characteristics of online communication.

The internet enables an anonymous space where individuals or groups can act freely without inhibition, and commit acts of violence without fear of being caught and brought to justice. They can easily hide behind a false identity that makes locating them difficult, and protects them from having their true identity revealed. In cyberspace, perpetrators can benefit from and hurt victims who cannot protect themselves and have nowhere to run to. Most victims of CB do not know the identity of their perpetrators [8]. Moreover, because the internet can be accessed by the masses, hurtful published material can spread rapidly and the hurt becomes more humiliating and longer lasting [9]. In most cases of CB, the perpetrators have a technological advantage over their victims, thus creating the unequal relationship between the two. By pressing a button and using various means to collect personal information on the internet, attackers can inflict long-lasting and significant harm on their victims [10; 5]. In quite a few studies, CB victims have also been victims of face-to-face violence, as have the bullies. Sometimes the harm through the internet is in fact a direct continuation of acts of violence and revenge they enact face to face [11]. Students do not tend to report these kinds of attacks to their parents or teachers, but sometimes they report them to their friends [12]. CB is therefore a relatively easy way to hurt someone; it is dangerous on multiple levels and is seen by many people.

B. The Effects and Implications of CB Among Students with and Without ADHD

CB has social, emotional, and scholastic effects on both the victims and the perpetrators. A correlation exists...
between CB victims and a depressive mood, high levels of anxiety and loneliness, as well as low levels of social support [4]-[13]. Like the rest of their peers, students with ADHD are also online and are exposed to the same dangers. Studies have shown these students are at greater risk of being involved with and affected by CB than peers without ADHD [14], [4].

ADHD is the most common childhood syndrome/disorder, and its manifestations may be seen throughout all phases of human development. It affects children and youth, and often continues into adulthood. ADHD involves a combination of persistent problems, such as difficulty sustaining attention, hyperactivity, and impulsive behavior. Children with ADHD also may struggle with low self-esteem, troubled relationships, and poor performance in school.

Social difficulties of students with ADHD manifest themselves as difficulties in processing social information, in interpersonal communication, and in behavior. Students with ADHD are not always aware of the accepted social norms, and as a result, they have difficulty deciphering different social situations and may misinterpret the behavior of their peers toward them [15]. Sometimes behavioral difficulties take the form of disruptive and aggressive behavior when they have trouble regulating emotions, and may display impulsive behavior, such as difficulty controlling frustrations and anger and inhibiting unwanted response patterns. Thus, they are easily drawn into quarrels and fights, and their behavior is sometimes more aggressive than that of the other students in the class. The unique features of ADHD increase the risk of being involved in acts of violence and bullying and also cause them to be more vulnerable to being hurt by others [14]. Studies examining the impact of involvement in CB on the social and emotional areas of life found that children with ADHD who were affected by CB reported higher levels of distress, and expressed feelings of great frustration, anger, helplessness, excessive worry, anxiety, loneliness, sadness, depression, and low self-esteem [15]. It was also found that CB impairs their scholastic functioning, motivation to learn, concentration and even their achievements. This is at a higher rate than among their peers without the disability [16].

D. The Intervention Program: A Workshop for Teachers on Cyberbullying, Its Characteristics, and Ways of Coping

The purpose of this study was to examine whether teachers' knowledge of and ability to cope with the issue increased following an intervention program conducted at their school.

Nevertheless, teachers are concerned that they do not know how to identify the students in their class who are disturbed by CB or how to provide them with an effective and appropriate response. The students, on their part, are afraid to report CB incidents to their teachers [17]-[18].

In light of the findings on the vulnerability of students with ADHD and the challenges integrated classrooms pose for teachers, equipping teachers with coping tools and skills for situations of CB in the classes where they are more likely to occur is important, especially, in relation to the findings that indicate teachers' actions have a great influence on the incidence and consequences of bullying [19], [20]. Many studies indicate the attitudes of the educational staff toward bullying, the prevalence of bullying, and teachers' self-perception of their ability to intervene are essential to the success of prevention and intervention programs [21]. For example, teachers' responses to acts of bullying influence the motivation of the student witnesses to help the victim [22]. And a link was found between the strategies teachers use to deal with bullying and levels of violent behavior. Further, teachers with a deeper understanding of the phenomenon are more likely to make an effort to locate and respond to those involved in acts of bullying [23].

In light of the abovementioned study, an intervention program for dealing with CB was developed and implemented for teachers in classes that include students with ADHD alongside students without ADHD, which aims to expose the teachers to the phenomenon and its consequences, equip them with appropriate tools and knowledge, and strengthen their sense of self-efficacy so that they can effectively deal with incidents of CB.

The intervention program was developed for teachers who teach in early middle school, a period that constitutes a significant window of time in which cases of CB are prevalent [4]. The intervention program involved a workshop in which teachers were given information about CB, its characteristics, and implications, as well as possible tools for supporting and assisting students in classes where students with ADHD are integrated, which are more challenging for teachers than regular classes.

The purpose of this study was to examine whether teachers' knowledge of and ability to cope with the issue increased following an intervention program conducted at their school.
"post" with personally insulting content and was asked to connect to the emotion that ensued, followed by a brief sharing, during which teachers expressed feelings of anger, hurt, and helplessness, reporting they felt how easy it was to attack someone, demeaning and, and what negative emotions the experience produced. A discussion followed on traditional bullying, its expressions, and how it can easily spill over into the online environment. During the workshop, a discussion was held on the Internet environment, its advantages, and disadvantages, and as part of the presentation of the dangers lurking in the online environment, the phenomenon of CB was raised and defined. To illustrate this experience, the teachers watched a number of videos illustrating various types of CB and the various means of online communication that get it started, such as sending hurtful messages via texting, uploading offensive posts, pictures, and videos on social networking sites and more. The moderator led a discussion on what makes the internet fertile soil for bullying, while presenting the unique characteristics of the internet, such as anonymity, visibility, and widespread exposure to information. Later, the workshop focused on the negative, undesirable effects of CB.

Most teachers reported that when dealing with CB, they relate to the victim and the bully, whereas only a few teachers mentioned the role of witnesses. In this context, the relevance of witnesses to acts of CB was highlighted, as was their importance in preventing, stopping, or expanding CB acts. As the workshop continued, the teachers raised different scenarios in which they encountered face-to-face bullying episodes that rapidly entered the realm of CB.

The second part of the workshop was devoted to providing tools for diagnosing and identifying children affected by CB, and creating a toolkit for coping effectively with it. The teachers were also informed about publicized stories of children who were hurt online, and accordingly, a simulation was conducted, including role-playing that showed possible means of dealing with a particular situation and preventing the phenomenon in general. Teachers were presented with warning signs of victims of CB, as well as the importance of raising awareness among students and parents. In addition, the teachers were given guidelines for safe internet surfing, and were provided with a list of external organizations that help both teachers and students. At the end of the meeting, the teachers presented their own conclusions and began to formulate a policy for identifying and treating cases of school bullying. The workshop was conducted in an open and collaborative atmosphere, enabling teachers to share and offer a variety of ways to deal with CB and help cyber-victims. Before and after the program, the teachers completed a questionnaire concerning their knowledge of, attitudes toward, and ways of dealing with CB, in order to assess the impact of the workshop.

E. Research Objectives

The purpose of the current study was to evaluate the effectiveness of an intervention program developed to help teachers who integrate students with ADHD in their classes cope with CB, with the aim of expanding and implementing the program if the findings attest to the program’s effectiveness.

The following three hypotheses were examined: 1) The intervention program will improve the knowledge, perceptions, and attitudes of teachers in integrated classrooms on the subject of CB, as well as their sense of self-efficacy for coping with it; 2) Teachers who attended the intervention program will report being able to more effectively identify and deal with difficulties arising from CB, compared to teachers who have not been instructed on this issue; 3) Teachers who have attended the intervention program will express a high degree of satisfaction with the program, its contents, and the tools it has given them to deal with CB.

II. Method

A. Population and Sampling

Fifty-nine teachers participated in the intervention program and the research, 45 of whom were female (76%) and 14 were male, all from three middle schools (grades 7-9) in the center of the Israel, whose classes include students with ADHD. The teachers’ ages ranged from 23 to 66 (SD =9.96, M= 40). Their teaching seniority ranged from one to 36 years, with an average of 11.4 years (SD=8.72). About 90% of them had a teaching certificate and a bachelor's degree, and 34% had a master's degree. Thirty percent of them had never received any instruction about CB.

B. Procedure

Following the principal’s approval to conduct the workshop, and after describing the goals and importance of the intervention program, pre-workshop questionnaires were given to 23 (39%) of the regular education teachers in grades 7-9 whose classes have students with ADHD and who had never received any instruction on cyber-violence. The participants received a brief explanation about the workshop and questionnaires. They were told they were not required to write their names on the questionnaire forms and that, in any event, anonymity would be maintained. At the end of the intervention program, the questionnaire was sent to 19 (32.2%) teachers who had attended a workshop or lecture on CB and 17 (28.8%) teachers who had not received any instruction on the subject. The 36 teachers who did not attend the intervention program were the control group; they completed the first part of the questionnaire given to the teachers who participated in the intervention program. This questionnaire included a question about whether they had ever attended a lecture on CB.

C. Measures

1) A personal information questionnaire—including the teacher's age, number of years of seniority, type of instruction.

2) A questionnaire about the teachers’ knowledge and means of coping with CB (following Li, 2007, School CB Questionnaire for Teachers), which
includes nine statements regarding knowledge, attitudes, and ways of dealing with CB, on a Likert scale ranging from 1 (not at all) to 5 (I strongly agree). The first four items relate to perceptions and attitudes about CB, and their aim is to expose knowledge and familiarity with CB and its characteristics, for example, “I have a clear understanding of what CB is” and “I am aware of the impact of CB on children and adolescents.” To examine internal reliability, a measure of “knowledge” on CB was constructed as the average of the above items, with a reliability coefficient (Cronbach’s alpha) of 0.82. The other five items address ways of dealing with CB, for example, “I am aware of what I have to do to prevent students from being involved in CB” and “I know what to do if one student is bullying others.” To examine internal reliability, a measure of ways of dealing with CB was constructed as the average of the aforementioned items. The reliability coefficient (Cronbach’s alpha) = 0.73.

3) A satisfaction questionnaire on the effectiveness of the workshop.

III. FINDINGS

A. Examining the Effectiveness of the Intervention Program

In order to examine whether the intervention program improved the knowledge, perceptions, and abilities of teachers with ADHD students in their class in dealing with situations of CB, two indicators were examined: a knowledge index on the issue and a measure of the sense of self-efficacy in dealing with CB. Accordingly, a score of four indicators was defined for each respondent: a knowledge index on CB following an intervention program; a sense of self-efficacy in dealing with CB prior to the program; and a sense of self-efficacy in dealing with CB following the program. The main hypothesis of the study was that the intervention program would improve the knowledge, perceptions, and attitudes of the teachers who have students with ADHD in their class, regarding the phenomenon of CB and their sense of self-efficacy in dealing with situations of CB.

The teachers were divided into three groups as follows: 1) Experiment group—23 teachers who attended the intervention program presented in this paper (“internal group”); 2) Control group—1–19 teachers who had previously attended a lecture or workshop on CB (“external group”); 3) Control group—2–17 teachers who had never been exposed to any lecture or instruction on CB (“no instruction”).

First, the differences in knowledge about CB and the sense of self-efficacy in dealing with it were examined among teachers in the experiment group prior to and following the program. For the analysis, a t-test for dependent samples was conducted, and the findings are presented in Table I.

Table I shows the knowledge index on CB was significantly higher (M=4.4783, SD=0.41) after the intervention program than prior to it (M=3.80, SD=0.55) (t=-5.515, p<0.05=0.000). The sense of self-efficacy in coping with CB was also found to be significantly higher after the program (M=3.99, SD=0.52) than before (M = 3.35, SD = 0.52); t = 4.451, p <0.05 = 0.000). Therefore, hypothesis 1 was confirmed.

In accordance with Hypothesis 2, the differences between the three groups of teachers were examined for the same indices: knowledge and a sense of self-efficacy in coping with CB prior to and following the intervention program. For this purpose, a one-way variance analysis was conducted in order to examine the degree of influence of exposure to the program. The results of the analysis are presented in Table II.

Table II shows that the level of knowledge about CB among the internal group (M=4.47, SD=0.41) was higher than that of the external group (M=4.10, SD=0.72) and the control group (M=4.11, SD = 0.78), and the external group average was lower than that of the group without any instruction (p>0.05=0.110, F=2.300). But the
findings are not significant. On the other hand, for the sense of efficacy index, as expected, significant differences were found between the three groups: the sense of self-efficacy in coping with CB in the internal group (M=3.93, SD=0.50) was found to be higher than the external group (M=3.74, SD=0.72), and these two groups were found to be significantly higher in this indicator than the control group (M=3.38, SD=0.76).

### IV. Discussion

In the past decade, children, youth, teachers, parents, and even law-enforcement agencies have been dealing with the phenomenon of CB, which has negative implications for scholastic and socio-emotional health aspects of students’ lives [4]-[6]. Like their peers, both pre-teens and adolescents with ADHD surf the web and are exposed to dangers. However, they are at greater risk of being involved in and affected by CB than other children, due to the nature of their disability, and have a lack of effective coping strategies and social difficulties that lead to less social support than their peers would have [4]. CB poses new challenges not only for the students, but also for the education system, especially teachers and educators who are responsible for maintaining a healthy socio-emotional climate in the classroom [24]. Teachers confront a fair bit of helplessness in dealing with problems arising from CB, because of a lack of knowledge on the subject, a lack of tools with which to identify and address the problem, and the lack of a clear policy for dealing with it in the school and beyond.

Hence, following the findings showing an increase in the incidence of CB, an intervention program was developed and implemented in the framework of the current study for teachers in classes that integrate students with ADHD, in order to provide them with knowledge, tools, and ways of identifying and dealing with CB. An examination of the effectiveness of the program showed that, following the intervention, the teachers knew more about and better understood the phenomenon of CB, the various ways it works, its identifying signs, and its effects. In addition, they reported that they felt they had more self-efficacy in identifying and addressing situations of CB and that they had more tools to guide and teach students how to be safer on the web. Therefore, the program seems to have indeed improved their knowledge of and their sense of self-efficacy in dealing with CB. Previous findings have shown the importance of intervention programs for teachers that focus on dealing with classroom violence [25]-[26]. When teachers are empowered and equipped with the proper tools and skills, they develop a sense of high self-efficacy and greater empathy for the students and their difficulties following CB events, and thus are able to fulfill their educational role more efficiently and effectively [25], [27].

An examination of the question of whether exposure to any instruction on CB affected teachers’ knowledge and perceptions found that the mere exposure to any directive on CB did not necessarily raise awareness of the phenomenon and its implications, perhaps because in recent years, the issue has been addressed on the public agenda and cases of CB are publicized in the media. In the self-efficacy index, a significant difference was found between teachers who had undergone some instruction and teachers who had not, and this finding indicates the need and importance of conducting intervention programs for teachers in order to equip them with effective knowledge and tools for dealing with situations of CB.

As part of the examination of the effectiveness of the program, this study evaluated the teachers’ satisfaction with the workshop and their sense of its contribution. The teachers reported a fairly high level of satisfaction with the program and the knowledge and the tools they acquired for coping with the phenomenon of CB.

This study paid particular attention to the relatively high vulnerability of students with ADHD to CB. Students do not appear to tend to inform their teachers of their vulnerability or involvement in actions, and because many cases of CB start in school or continue there, understanding what teachers know about the phenomenon and how they deal with it, especially in classes where these students are integrated, is necessary. The research findings clearly show that teachers lacked the knowledge and the tools for coping with the phenomenon and that

### TABLE III: DISTRIBUTION OF THE QUESTIONNAIRE'S DETAILS AND SATISFACTION WITH THE PROGRAM

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am more aware of the concept of cyberbullying and its forms</td>
<td>4.36</td>
<td>0.58</td>
</tr>
<tr>
<td>2. I am more aware of the causes and factors connected with cyberbullying</td>
<td>4.43</td>
<td>0.72</td>
</tr>
<tr>
<td>3. I am aware of the signs and symptoms of cyberbullying</td>
<td>4.39</td>
<td>0.58</td>
</tr>
<tr>
<td>4. I am aware of the relations between the family context and cyberbullying</td>
<td>3.73</td>
<td>1.32</td>
</tr>
<tr>
<td>5. I am aware of the importance of parental monitoring and supervision of their children</td>
<td>4.82</td>
<td>0.38</td>
</tr>
<tr>
<td>6. I am aware of the importance of teacher monitoring and supervision of their students</td>
<td>4.82</td>
<td>0.38</td>
</tr>
<tr>
<td>7. I am aware of what I can do, as a teacher, to prevent cyberbullying</td>
<td>4.39</td>
<td>0.83</td>
</tr>
<tr>
<td>8. I am aware of what I should do if one of my students is a cyber-victim</td>
<td>4.39</td>
<td>0.72</td>
</tr>
<tr>
<td>9. I am aware of what I should do if one of my students is a cyberbully</td>
<td>4.34</td>
<td>0.77</td>
</tr>
<tr>
<td>10. I am more aware of the legal issues pertaining to cyberbullying</td>
<td>3.56</td>
<td>1.07</td>
</tr>
<tr>
<td>11. How satisfied are you with the workshop?</td>
<td>4.87</td>
<td>0.34</td>
</tr>
</tbody>
</table>

p<0.05=0.02, F=4.071. Hypothesis 2 was thus partially confirmed.

### B. Evaluation of the Intervention Program and Satisfaction

Table III shows that the teachers reported a fairly high degree of satisfaction with the program and with the knowledge and tools they gained.
the program raised their awareness of the subject, expanded their knowledge, and helped them find coping tools. Room remains for developing and implementing such programs for other populations of teachers and educators.

This study examined a small sample of teachers. Running and assessing such a program with a larger sample of teachers would be worthwhile. In addition, a long-term program that includes more meetings throughout the year, including focus and discussion sessions in small groups, might enable the knowledge to be deepened and assimilated over time, and could help teachers build intervention programs for their students. Such contents should also be introduced into teacher education colleges. Dealing with the phenomenon in a multi-system framework that includes building cooperation, language, and a behavioral culture that will be uniform among teachers, students, and parents, in order to create effective coping with CB among students seems to be of great importance.

The results of the study indicate the need to conduct further research on larger groups of teachers and from different sectors in order to reveal the nature of the differences between different teaching styles. A follow-up study could be conducted that increases the number of mentoring sessions and holds discussions in separate focus groups for professional teachers and educators involved in CB events. This approach would enable them to receive customized and professional tools for their work.

Hinduja and Patchin [13] claim that to better cope with CB in schools, a stronger focus on specific content is necessary. They suggest that enhancing the internal competency of resilience can complement the ever-present efforts of schools as they work to create a safe, supportive learning environment. Thus, the intervention programs for teachers should be focused on more specific aspects in order to generate the most effective prevention and intervention programs for school teachers.

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