

Original Paper

Empathy in the Prevention of Cyber-aggression

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Abstract

The development of life skills is an important factor in the prevention of cyber-aggression. The most important skill is the ability of empathize. Empathy leads to greater sensitivity to other people, altruism, care, tolerance, and acceptance of differences. This ability is thus rightly desirable in a pluralistic cyberspace, allowing people to function together and express opinions without mutual vilification, humiliation, or abuse. The generation of “screenagers” is significantly threatened by modern socio-pathological phenomena. Emotional laxity and failure of emotional life are to blame for all of this. The study presents the results of research on the verification of the effectiveness of preventive activities aimed at the empathetic experience of pupils in the natural and digital environment. The research sample consisted of 30 pupils aged 9 to 10 years. Half of the pupils (N=15) represented the experimental group and the other half (N=15) the control group. The ratio of girls and boys was approximately equal. The research results showed that the experimental group reported a significantly higher level of empathy than the control group after completing the preventive activities ($p = 0.04 > \alpha = 0.05$). The preventive program used in our research included self-experience activities, which, according to our expectations, increased the ability of empathy in the experimental group. At the same time, our findings confirm previous research verifying the mutual correlation between the level of empathy and experiences with cyber-aggression.

Keywords

empathy, life skills, cyber-aggression, cyberbullying; screenagers, prevention, preventive program

1. Introduction

Cyber-aggression together with cyberbullying represent a complex of behavioural manifestations, often conditioned by endogenous and, above all, exogenous determinants. Approaches and theories aimed a priori at investigating aggressive behaviour in a normal environment help to understand the manifestations of cyber-aggression. To a large extent, these theories are the starting point for

investigating cyber-aggression and its possible prevention. Currently, the opposite approach in prevention is being promoted, i.e., strengthening positive behaviour, especially the concept of developing life skills. Many studies demonstrate the significant role that a high level of life skills, especially the empathy, plays in relation to experiences with cyberaggression. The concept of “life skills”, also known as soft skills, has been coming to the fore in the last twenty years. These skills represent a kind of “equipment” needed to effectively solve everyday problems, make decisions, plan, and manage person’s own life.

In today’s world affected by pandemic of Covid-19, the conflict in Ukraine, as well as other domestic and international challenges, it is necessary to develop life skills in society, because their social functioning often takes place in parallel in the natural and digital environment. Authors Sonu and Neeraj (2020) defined life skills as psychosocial abilities that enable an individual to apply their knowledge, attitudes, and values to good behaviour. There is no definitive list of all life skills (Sonu & Neeraj, 2020; Manju, 2020). The World Health Organization (WHO, In Saravanakumar, 2019) lists ten skills necessary for life, which include self-awareness, empathy, decision-making, problem-solving, effective communication, interpersonal relations and teamwork, creative thinking, critical thinking, coping with emotions (self-control) and stress management. Among the listed skills, empathy is a prerequisite for prosocial behaviour, it emphasizes sensitivity and the ability to empathize with the feelings and experiences of others. A prerequisite for empathy is not only active listening, but also communication, support of interpersonal relationships and correct decision-making, so it is possible to submit that empathy is present in each of the skills defined by the WHO.

Heckman and Katz (2012) claim that preventive programs that develop life skills are also significant at the societal level and recommend their inclusion in the portfolio of public policies. Greenberg and Nilssen (2014) state the benefits of life skills not only for the individual, but above all, at the collective level and the importance of their development in building a mature society. It seems particularly desirable to develop the skills of the current generation of “screenagers”, i.e., teenagers who spend their time browsing the Internet, playing games, chatting, etc. (Holl á& Bielčiková, 2022).

2. Empathy as one of the Life Skills and its Relation to Cyber-Aggression

In connection with aggression occurring in cyberspace and the concept of life skills, it is the empathy that is most often mentioned. Empathy is important for personal growth, self-confidence and respect for social norms and human rights. Goleman (1995, p. 285) defines empathy as “the ability to put aside one’s own interests and egocentric impulses, the ability to listen and look at the situation through the eyes of another person.” According to the author, empathy leads to greater sensitivity to other people, altruism, care, tolerance, and acceptance of differences. This ability is thus rightly desirable in a pluralistic cyberspace, allowing people to function together and express opinions without mutual vilification, humiliation, or abuse. Empathy develops very significantly in childhood and adolescence. The rapid development of cognitive, social, and emotional abilities during these periods affects the

intention of children and adolescents to be interested in the tendencies of others, to co-experience their feelings and fears (Blakemore & Choudhury, 2006).

The author Keen (2006, In Tsatsou-Nikolouli, 2021) describes empathy as the ability to identify the state of another and see things from his point of view. It is the ability of an individual to perceive and understand how another person feels in a particular situation. Empathy helps to accept other people with different personalities. The above therefore means the existence of two dimensions of empathy, namely (1.) cognitive empathy and (2.) affective empathy. Cognitive empathy is characterized as the ability to understand other people's emotions. It can also be seen as the ability or tendency of a person to be able to imagine and understand the perspectives, mental circumstances, and feelings of other people, without reciprocal sharing. Affective empathy refers to the ability to experience the emotions of others (Montero-Carretero et al., 2021).

Authors Salavera et al. (2021) supplement the division of empathy with the so-called empathic concern that spontaneously offers help to people in need. Empathy plays a major role in the development of social behaviour. It is closely related to self-image and self-reflection, respect for oneself and other people, the ability to give up something for the benefit of others. At the same time, empathy has several levels, namely:

1. understanding based on logical reasoning,
2. awareness of emotions harboured by another person towards an individual,
3. proper disclosure, or deciphering promotional behaviour, i.e., behaviour in which the other person does not openly express what they want,
4. empathic experience of emotional contradictions,
5. understanding the context of another person's psychological processes,
6. the ability to help others based on understanding their behaviour and actions (Holl 2014).

From childhood, it is necessary to develop empathy on individual levels. Individuals with a highly developed level of empathy have been shown to be able to understand and share the suffering of victims and therefore avoid violent behaviour. Empathy in these cases is often associated with help and protection and suppresses aggressive behaviour (Espelage et al., 2018; Fredrick et al., 2020). Inadequate development of empathy in a child caused by an unstimulating social environment can manifest itself in the form of inappropriate peer relationships and hostility between children.

During adolescence, the severity of the lack of empathy changes, and it can cause aggression and even antisocial behaviour. A person who does not have a certain amount of empathy and cannot empathize with the situation and experiences of others can easily become an aggressor, but also a victim of aggressive attacks in the online space. Studies on the relationship between empathy and forms of aggression such as offline- and cyber-bullying have shown negative correlations (e.g., Brewer & Kerslake, 2015; Del Rey et al., 2016; Zych et al., 2019).

3. Prevention of Cyber-Aggression through the Development of Empathy

Research studies dealing with the mutual relationship between empathy and cyberaggression or cyberbullying are starting to appear more and more often. However, the results of similar studies are mostly contradictory, in terms of the facilitating or preventive role of empathy in cyberbullying (Ang & Goh, 2010). Some of these studies report that aggressors have lower level of empathy than non-aggressors (Joliffe & Farrington, 2006). Steffgen, König, Pfetsch and Melzer (2011) also confirmed that a lack of empathy makes it easier for respondents to behave aggressively in the cyber environment and lose inhibitions. In their study, Ang and Goh (2010) investigated the interrelationship between gender, level of empathy and cyberbullying. They stated that the critical variable predicting the difference in cyberbullying experiences between men and women is empathy. Zych, Baldry, Farrington, and Llorent (2019) conducted a large-scale meta-analysis aimed at critically evaluating the limitations of previous research studies investigating cyberbullying risk factors. Their effort was to find out if and how empathy is specifically related to the different roles of cyberbullying actors. They analysed 25 research studies and found that cyberbullying perpetration was associated with low levels of empathy (OR = 1.5), but found no significant association between empathy levels and victim-level cyberbullying experiences (OR = 0.94). As the authors themselves state, these results showed that most aggressors who cyberbully others are less empathetic. On the other hand, cyber victims show a higher level of empathy, which can also be caused by personal negative experiences that translate into greater sensitivity to the feelings of others.

The theoretical resources of our research were mainly the research studies (1.) of the author del Rey et al. (2016), who investigated how empathy affects bullying and cyberbullying in a sample of 564 high school students from Spain and Greece. Cognitive and affective empathy were found to be significantly correlated with high school students' involvement in bullying and cyberbullying. (2.) Outside the European continent, authors Hinduja and Patchin (2022) investigated how empathy influences prejudice-based cyberbullying. A national sample of 1,644 12- to 15-year-old students shows that those who had higher empathy were significantly less likely to cyberbully others. These research findings support the effort of integration of empathy as a means of preventing cyberaggression and cyberbullying.

4. Research Objective and Research Hypothesis

For the investigation of empathy as a means of cyberaggression prevention, a mixed research design with elements of a quasi-experiment seemed to be most appropriate. The research was aimed at finding out whether the level of empathy in children will improve through the proposed preventive activities.

4.1 The Research Goal

The goal of the research was to identify and verify the level of empathy among pupils through the proposed preventive activities.

4.2 Hypothesis

The premise was an increase in empathy in the experimental group of pupils after the application of preventive activities aimed at pupils' empathic experience in natural and digital space.

4.3 The Research Sample

The research sample consisted of two groups of pupils, experimental and control, in the 4th grade of one elementary school. The pupils were from 9 to 10 years old. The total number of respondents was 30. The number of pupils who participated in the research in the experimental group was 15, of which 8 were girls and 7 were boys. The control group had the same number of respondents, 7 girls and 8 boys. The distribution of pupils according to gender and number was random.

4.4 Research Method And Methodological Procedure

The research was carried out using the quasi-experimental method, which included a pre-test and a post-test in the form of a structured interview. For a better understanding of the obtained statements, the pupils' answers were categorized and then quantitatively evaluated. The pre-test and post-test consisted of 10 questions regarding students' empathy in and outside of the online space. Pupils' answers were scored. The highest attainable number of points was 16. Children's answers were evaluated in four scales (-1, 0, 1, 2), where they received -1 point for a negative answer (judgment, aggression, ignoring, etc.). They scored 1 point for an answer that contained components of cognitive and affective empathy. Some questions consisted of both components of empathy, in which case pupils could get 2 points. They received 0 points for the answer "I don't know".

5. Research Findings

Tables 1 and 2 capture the pupils' answers in the pre-test (interview).

Table 1. Pre-test of the Experimental Group

	Classroom 4.A											Total number of points
Questions:	1	2	3	4	5	6	7	8	9	10		
1	Pupil1	2	1	-1	2	2	2	1	1	1	1	12
2	Pupil2	2	2	2	2	2	1	1	1	1	1	15
3	Pupil3	2	1	2	2	2	2	0	1	1	1	14
4	Pupil4	1	2	1	2	2	2	1	1	1	1	14
5	Pupil5	2	2	2	2	2	2	1	1	1	1	16
6	Pupil6	2	2	2	2	2	1	1	1	1	1	15
7	Pupil7	2	1	2	2	2	2	0	1	1	1	14
8	Pupil8	2	2	2	2	2	-1	1	1	1	1	13
9	Pupil9	1	0	1	2	1	-1	1	1	1	1	8
10	Pupil10	1	2	-1	2	2	1	1	1	1	1	11

11	Pupil11	1	0	2	2	0	0	0	1	1	1	8
12	Pupil12	2	2	2	2	2	2	1	1	1	1	16
13	Pupil13	1	2	-1	2	2	-1	1	1	1	-1	7
14	Pupil14	2	2	2	1	2	2	1	1	1	1	15
15	Pupil15	2	2	0	2	2	1	1	1	1	1	13
Total												191

Source: Kosovac (2022)

Table 2. Pre-test of the Control Group

Classroom 4.B												Total number of points
Questions:		1	2	3	4	5	6	7	8	9	10	
1	Pupil1	2	2	1	2	1	2	-1	1	1	1	12
2	Pupil2	2	2	1	2	1	-1	1	1	1	-1	9
3	Pupil3	2	2	2	2	1	2	1	1	1	1	15
4	Pupil4	2	2	2	2	2	1	-1	1	-1	1	11
5	Pupil5	2	2	2	2	2	2	-1	1	1	-1	12
6	Pupil6	2	2	1	2	2	2	1	1	1	1	15
7	Pupil7	2	-1	2	2	2	2	1	1	1	1	13
8	Pupil8	2	2	1	1	0	1	1	-1	1	1	10
9	Pupil9	2	1	1	2	2	1	1	1	1	1	12
10	Pupil10	2	2	2	2	2	1	-1	1	1	1	13
11	Pupil11	2	2	2	2	1	1	1	-1	1	1	12
12	Pupil12	2	2	2	2	2	2	1	1	1	1	16
13	Pupil13	2	0	2	1	2	1	1	1	1	1	12
14	Pupil14	2	2	2	2	2	1	-1	1	1	1	13
15	Pupil15	2	2	2	2	2	2	-1	1	1	1	14
Total												189

Source: Kosovac (2022)

After the pre-test, an activity aimed at strengthening the pupils' empathy took place in the experimental group using activating methods. Subsequently, the pupils were interviewed again individually, the questions of which corresponded in content to the issue but did not copy the original wording from the pre-test. The purpose of the post-test was to find out whether the level of empathy in the experimental group would increase.

Table 3. Post-test of the Experimental Group

Classroom 4.A		1	2	3	4	5	6	7	8	9	10	Total number of points
Questions:												
1	Pupil1	2	1	1	2	2	2	-1	1	1	1	14
2	Pupil2	2	2	2	2	2	1	1	1	1	1	15
3	Pupil3	2	1	2	2	2	2	1	1	1	1	15
4	Pupil4	1	2	1	2	2	2	-1	1	1	1	14
5	Pupil5	2	2	2	2	2	2	1	1	1	1	16
6	Pupil6	2	2	2	2	2	1	1	1	1	1	15
7	Pupil7	2	1	2	2	2	2	0	1	1	1	14
8	Pupil8	2	2	2	2	2	2	1	1	1	1	16
9	Pupil9	2	1	1	2	1	1	1	1	1	1	12
10	Pupil10	2	2	1	2	2	1	1	1	1	1	14
11	Pupil11	2	0	2	2	1	1	0	1	1	1	11
12	Pupil12	2	2	2	2	2	2	1	1	1	1	16
13	Pupil13	13	2	-1	2	2	2	1	1	1	-1	10
14	Pupil14	2	2	2	1	2	2	1	1	1	1	15
15	Pupil15	2	2	1	2	2	1	1	1	1	1	14
Total												211

Source: Kosovac (2022)

Table 3 shows that the experimental group of pupils scored 211 points in the post-test, which was 20 points more than the pre-test. Based on the above, the data were subjected to statistical evaluation.

Since we evaluated dependent data (change before and after taking preventive measures), the nature of which did not meet the conditions for the use of parametric statistical methods, we verified the hypothesis by means of the non-parametric Wilcoxon T-test for dependent data. Statistical processing was performed in the program R ver. 4.1.2 (R Core Team 2021). A suitable data format for subsequent analysis was created using the PairedData package function. We verified statistical significance at the $\alpha = 0.05$ level.

Table 4. Pupils' Empathy before and after Implementation of Preventive Activities

Test	N	M	SD	SEM	df	W	p
Test 1	15	77,23	7,35	0,23	12	11	0,04
Test 2		71,46	10,00	0,32			

Source: Author's own work

N – number; M – diameter; SD – standard deviation; SEM – error of the mean; df – degrees of freedom;

W – Wilcoxon test; p – level of statistical significance

Statistical analysis using the Wilcoxon test confirmed a statistically significant difference after the application of preventive measures in the case of empathy ($p = 0.04 > \alpha = 0.05$).

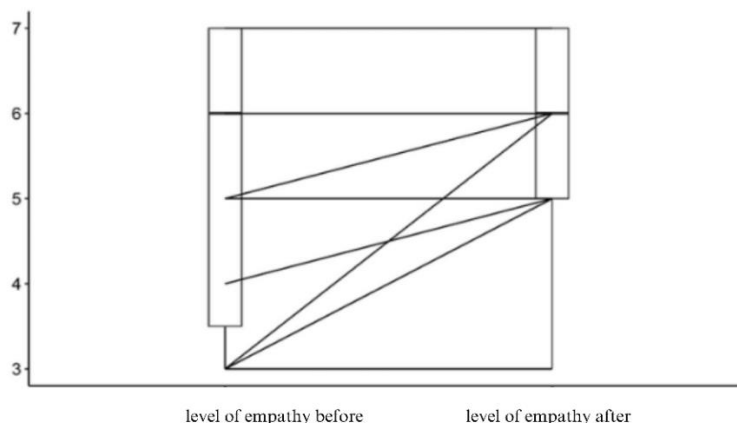


Figure 1. Difference between the Level of Empathy before and after the Application of Preventive Activities

Source: Author's own work

Based on the above results, it can be concluded that preventive activities aimed at promoting empathy among pupils in both natural and digital environments are an important means of preventing cyber-aggression (Kosovac, 2022). It is therefore obvious that children and adolescents need to develop the empathy to be able to cooperate with each other, to be able to create and maintain interpersonal relationships and to function in various social structures. The actuality of this requirement is increasing with the rate of digitization of society and replacement of personal contacts with virtual ones.

Empathy does not develop naturally in cyberspace; it is only possible to experience a feeling of compassion there. However, unlike empathy, compassion does not require active action, so it is at a lower level of development. Children and adolescents are consumers on the internet. For example, they can watch starving children in India and eat some delicious food. The more often they are exposed to similar scenarios, the more passive and indifferent they become to other people's problems. The anonymity that the internet provides does not open space for empathy. It can only be developed through one's own experience. Therefore, the preventive program used in our research also included self-experience activities, which, according to our expectations, increased the ability of empathy in the experimental group.

6. Discussion and Recommendations

Our research showed that the level of empathy and experience with cyber-aggression are significantly correlated with each other. The results we obtained in our quasi-experiment coincide with previous

findings and confirm the fact that empathy, as one of the life skills, represents the most important ability in the prevention of cyber-aggression and cyberbullying. The prevention of cyber-aggression and cyberbullying carried out in the school environment must be the result of a detailed and thought-out activity in advance. In general, it is recommended to use a combination of several strategies for prevention, to proceed comprehensively and systematically. Individual preventive activities should be targeted, adapted to the age and experience of the participants. In the ideal case, it is advisable to start with prevention even before cyber-aggression occurs, not to focus only on conveying information, but especially on providing self-experiences, developing social skills and life skills.

The most successful preventive programs (e.g., KiVa, Media Heroes, Second Step, Cyberprogram 2.0, Steps to Respect®, Positive Actions, etc.) devote the most space to the cultivation and development of empathy (Žovinec & Sender, 2021). At the same time, these programs have both a specific and a non-specific area of prevention in their philosophy. Specific prevention focuses specifically on the area of cyber-aggression. The most important components in it are the identification of risk factors and the elimination of socio-pathological phenomena. However, the non-specific field of prevention, which is devoted to social and emotional development and the development of life skills, appears to be much more important. Through interviews, dramatization, conversations and discussions, the participants try to empathize with the feelings of the victim, name their fears and motives, and convey their own positive and negative experiences with the Internet.

7. Conclusion

At a time when there are more and more frequent warnings about the breakdown of ethical standards in society, when we increasingly close ourselves off from the outside world and spend most of our time in cyberspace, it is important to pay attention to developing life skills, especially the ability to empathize. Empathy turns out to be the most important ability in prevention of cyber-aggression. In cyberspace, we become more emotionally numb and reckless. The generation of “screenagers” (Holl á& Bielčiková, 2022) is significantly threatened by modern socio-pathological phenomena. Emotional laxity and failure of emotional life are to blame for all of this. Children and adolescents are often left alone at home without supervision, only in the company of a mobile phone or tablet.

The presented study shows the possibility of overcoming the current situation or at least eliminating it. In today’s increasingly rational and over-technological era, we often leave the upbringing of children to a chance. Many of us do not realize the responsibility for our emotions and the influence of childhood on our behaviour and success in life. Our lives are also affected by our own projections onto other people. Every person is a product of upbringing in the family and education at school. It is therefore very important to spread awareness about the importance of empathy, mutual respect, compassion for others and willingness to help them. Although it may seem that only ambitious and self-sufficient individuals survive in today’s world, this is not entirely true. We are social beings and thus we live in

mutual dependence. We create our own values based on our attitude towards other people, the ability to empathize with their feelings and share their sorrows and joys.

The results of the presented research showed that empathy has an irreplaceable place in the prevention of cyber-aggression and cyberbullying. We hope that our findings will help practitioners integrate the development of empathy into the development of prevention and intervention programs. At the same time, we believe in the sincere interest and motivation of pedagogical and professional staff of schools and school facilities to pay more attention to the non-specific prevention of socio-pathological phenomena and thus to the greatest extent possible prevent any negative experiences of children and adolescents with cyber-aggression and cyberbullying.

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