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BE-FRIENDLY: A DIGITAL CLASSROOM PROGRAM TO INCREASE EMPATHY AND SELF-CONTROL AND REDUCE AGGRESSION

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Abstract

Children and adolescents may be exposed to complex social situations which can lead them to avoidance, anxiety and loneliness. With the aim of preventing boycotts and shaming phenomena and to strengthen children's self-confidence and sense of self-image, we developed an innovative classroom program that incorporates a digital interface for improving social and emotional skills among children and adolescents in the era of social media. During the sessions, challenging social scenarios are presented to the participants from different points of view through a digital interface. A chatbot prompts the children with questions about each scenario, encouraging them to reflect on their feelings and thoughts**.** The scenarios presented in the interface are used as a trigger for the discussion in the group. A preliminary study was conducted to evaluate the program impact. 45 children participated in the study, most of whom were boys (71%), aged 9 to 14 years. Study results were compared to outputs from the AI analyses of participants' responses which were assessed using narrative practices. Findings indicate a significant increase in children's self-reported empathy and self-control, as well as in parents' reports of their child's empathy. Additionally, there was a significant decrease in parent's report of child aggression.

Keywords: *Empathy, self-control, aggression, AI, social skills.*

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1. Introduction

The social world of children and adolescents today is integrated and intertwined with social behavior in the virtual space, which constitutes a central axis of interaction and communication between children.

The use of social media among children and adolescents can have both positive and/or negative effects on mental well-being, and the impact of social media use depends on a variety of factors, including online content, the strengths and sensitivities of adolescents, and their life circumstances (American Psychological Association, 2023). Social media can contribute to poor mental health (e.g., fear of judgment and cyberbullying) or have positive effects on adolescents' mental well-being through support and connection (Popat & Tarrant, 2023). Although adolescents are aware of the dangers that exist online and of cyberbullying, they believe that the harm to them will not be significant. Middle-class teenagers face more risks in the virtual space compared to younger children from the working class (Livingstone & Helsper, 2010). Younger girls and boys are more vulnerable to sexual risks in the online space (Vandoninck, et al., 2013).

In a study conducted among children in grades 6-8, it was found that the variables of pro-social behavior and aggressiveness are mediating variables between empathy and acceptance by the peer group, so that children who are empathetic toward their friends will be socially accepted due to their pro-social behavior, but also due to low levels of aggression (Wang et al., 2019).

In a meta-analysis study that included 27 articles, the relationship between empathy and a bystander who protects against bullying was examined, and it was found that there is a positive relationship between the two variables. A stronger correlation was found between affective empathy and protective bystander than the correlation between cognitive empathy and protective bystander (Deng, Yang, & Wu, 2021).

There is a need to address social-emotional aspects, especially in children with learning disabilities and Attention-deficit/hyperactivity disorder. In a study that examined social information processing abilities and emotional understanding in children with and without learning disabilities, it was found that the group of children with learning disabilities coded fewer social cues, offered fewer solutions to social conflicts, expressed fewer social goals, and there was less alignment between the goals they set and the solutions compared to children without learning disabilities (Bauminger, Edelsztein & Morash, 2005). Additionally, children with learning disabilities had more difficulty identifying and understanding complex emotions (embarrassment, pride, guilt, or loneliness) compared to better abilities with simple emotions (such as happiness or sadness) (Bauminger, Edelsztein & Morash, 2005).

The E.C.C. (Emotional Cognitive Coaching) Method

In recent years, the Nitzan Association has been working to eradicate bullying and shaming phenomena online, while taking active measures aimed at reducing the number of young victims, who sometimes are unable to cope with situations such as boycotts or social alienation. In an attempt to create a better reality, Dr. Maly Danino developed the B-Friendly program based on the E.C.C (Emotional Cognitive Coaching) method for cognitive emotional coaching. The Emotional Cognitive Coaching (E.C.C.) method, originally developed for parents of children with learning disabilities and attention disorders, is a research-based method that has been proven to contribute to positive outcomes in improving coping with negative emotions towards the child, strengthening positive responses, and improving the family climate. (Al-Yagon, Lachmi & Danino, 2019; Danino & Shechtman, 2012; Shechtman, Baram, Barak, & Danino, 2019; Shechtman & Danino, 2017).

2. Intervention process

The program creates challenging social situations from the children's world and helps them experience a corrective experience of positive social connections, strengthening their sense of capability and self-image. Each group includes 12 weekly hour-long meetings, which were held at Nitzan Association branches. The program was facilitated by a senior professional from the fields of education, counseling, and therapy with rich experience in emotional therapy.

Through the group, children were exposed to a wide range of social situations from different perspectives, in which they were required to understand themselves, their feelings, their thoughts, and the connection between emotions, thoughts, and behavior. The program was operated through an accompanying digital interface, serving as a social simulator, operated via WhatsApp application.

3. Methods

An evaluation study was conducted in Israel using a pre-post intervention design. A total of 45 children participated in the study, most of whom were boys (71%), aged 9 to 14 years (mean = 11 years, SD = 1.51), From third to eighth grade. Most were students in the general education system (78%), while others were enrolled in special education. Approximately 60% of the children had a known diagnosis, including psychological, didactic, linguistic, or ADHD-related.

4. Design

The program was delivered by professionals included 12 weekly sessions. Children and one of their parents filled out research questionnaires before and after the intervention. The children's questionnaires included: The Index of Empathy for Children and Adolescents (Bryant, 1982), The Aggression Questionnaire (Buss & Perry, 1992), The Self-Control Scale (SCS; Rosenbaum, 1980), and Child Self-Efficacy. The parent's questionnaires included: The Child Behavior Checklist (CBCL; Achenbach, 2001) and the parent's perception of the child's empathy (Akselrad & Diesendruck, 2017).

5. Results

Results showed significant differences in child reports of empathy, child self-control, parent reports of child empathy, and parent reports of child aggression. Reports of empathy and self-control in showed significant increases, and parent reports of child aggression showed a significant decrease. No change was noted for the children’s reports of aggression and self-efficacy. The effects of the intervention were examined with analyses of covariance, controlling for the child’s gender and age. See Table 1 for means, standard deviations, and F-values for the study variables by time.

Change in empathy, aggression, self control, and self efficacy was defined as standardized adjusted residual gains, subtracting each pre-test score from the post-test score, and controlling for the pre-test score. Correlations between these change scores were calculated, controlling for the child's gender and age.

Results showed several significant associations. Change in perceived child self efficacy was positively associated with change in child report of empathy and change in child self control, and negatively associated with change in child report of aggression. That is, a higher increase in perceived child self efficacy was associated with a higher increase in child report of empathy, a higher increase in child report of self control, and a greater decrease in child report of aggression. It should be noted that there was almost no overall change in child self efficacy, when considering the sample mean, yet children ranged from increasing 3 point to decreasing 3 points, in a scale ranging 1-6. In addition, change in parent report of child empathy was negatively associated with change in parent report of child aggression, revealing that a higher increase in parent report of child empathy was associated with a greater decrease in parent report of child aggression. (See Table 2 for partial correlations between the change scores of the study).

Table 1. Means, standard deviations, and F values for the study variables by time (N = 45).

	Pre *M* (*SD*)	Post *M* (*SD*)	*F*(1, 42) (*p*) (η^2)
Child report of empathy	10.70 (2.29)	11.43 (2.26)	5.52 (*p* = .023) (η^2 = .111)
Child report of aggression	3.28 (1.41)	3.05 (1.35)	1.30 (*p* = .260) (η^2 = .029)
Child self control	3.53 (0.72)	3.89 (0.83)	10.71 (*p* = .002) (η^2 = .196)
Child self efficacy	4.87 (1.52)	4.89 (1.34)	0.02 (*p* = .893) (η^2 = .001)
Parent report of child empathy	31.81 (10.24)	34.35 (9.15)	7.98 (*p* = .007) (η^2 = .154)
Parent report of child aggression	10.06 (7.61)	7.13 (5.97)	16.21 (*p* < .001) (η^2 = .269)

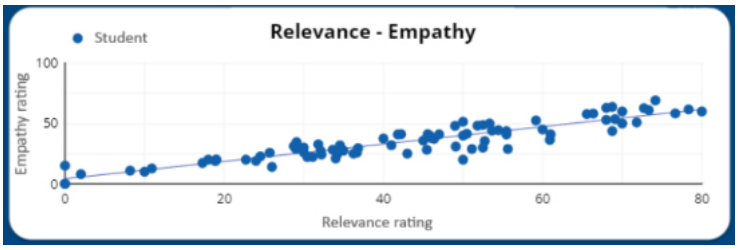
Table 2. Partial correlations between the change scores of the study variables (N = 45).

	1.	2.	3.	4.	5.	6.
1.Child report of empathy	1					
2.Child report of aggression	-.06	1				
3.Child self Control	.22	-.08	1			
4.Child self Efficacy	.38*	-.36*	.36*	1		
5.Parent report of child empathy	-.25	.10	.02	-.21	1	
6.Parent report of child aggression	-.03	.11	-.13	.16	-.34*	1

*$p < .05$

The AI analyses of participants' responses assessed, using narrative practices, target variables (for example, empathy, aggression, and self-control). In Figure 1, we can see a scatter plot displaying the correlation between Relevance Rating (x-axis) and Empathy Rating (y-axis) for students. Each blue dot represents an individual student. There is a positive correlation between the two variables, meaning that as Relevance Rating increases, Empathy Rating also tends to increase.

Figure 1. Outputs from the AI analyses.



6. Research limitations

In the current study, we examined the effects of the program before and after the intervention, but in the future we would like to conduct an in-depth study that also includes a comparison with a control group that will include similar population characteristics, without intervention, or a group that will receive a different intervention.

7. Conclusions

The findings indicate that the program effectively increases empathy as reported by parents and their children, and increases self-control as reported by children, while reducing aggression among children as reported by the parents. Further research is needed to explore its long-term effects on classroom climate and the factors that predict the success of social-emotional group interventions.

In light of the program's positive results, we will continue to integrate the program in schools nationwide. The program, which was approved by the Ministry of Education, is requested by schools and is funded from the autonomous budget available to the schools to provide social and emotional support to students. The positive responses received from school principals, parents, and especially children are another indication of satisfaction with the program and its contribution to improving the school climate.

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