



Journal of Human And Education
Volume 5, No. 1, Tahun 2025, pp 172-177
E-ISSN 2776-5857, P-ISSN 2776-7876
Website: <https://jahe.or.id/index.php/jahe/index>

A Socialization of the Impact on Artificial Intelligence (AI) in Overcoming Bullying for Children at School

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Abstract

The objective of this socialization is to provide an overview of the application of artificial intelligence in dealing with problems related to bullying. The positive effects of artificial intelligence on the life and growth of today's children will be widely utilized. At an early age, the protection of artificial intelligence is indispensable. It can play a role in preventing extreme behavior from developing in children. Post-bullying, the counseling program can be developed as part of parental counseling for their children's mental health. Additionally, an early warning function should be deployed, and permanent protection must be added to artificial intelligence. Among them, enhancing children's ability to judge, guide, and respond in events involving negative energy is essential. The results showed recent advancements in AI technology offer significant potential for more effective outcomes compared to traditional non-technological approaches in preventing and addressing children's bullying. These AI-driven solutions could potentially reduce the occurrence of bullying incidents, lessen their impact on children, and provide better protection for victims. Interactive video games that incorporate physical activities are now combining various elements such as muscle group engagement, body awareness, head-torso coordination, and social cooperation into comprehensive exercise packages. AI-enhanced video games can identify motivations behind bullying behavior in children by analyzing audio-visual data, assigning different levels of credibility to the information gathered during gameplay. These games are capable of providing immediate assistance when bullying attempts are detected, such as by playing calming music and animations, or by initiating mentoring sessions and discussions about appropriate behavior.

Keywords: *AI, Bullying, Children, Digital Technology, School*

INTRODUCTION

Artificial Intelligence (AI) is a breakthrough in the development of digital technology that will continue to bring new changes to human life. The use of AI is present in various fields, one of which is dealing with bullying, which has been a programmed form of bullying in

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various countries. This bullying concurrently targets children psychologically. The use of AI in bullying is a product that can be developed in response to the emergence of bullying problems in today's schools, and it can serve as one of the supportive mediums for resolving child bullying. Through the use of AI as a support device for children, the intention is to prepare a design prototype that can assist in detecting bullying involving children's movements, enabling support that can be provided to the child. This paper examines how AI can help overcome bullying targeted at children. The definition of moving bullying is limited to organized activities that harm victims, where an individual is forced to eat, choke, or jump from trees, or where an individual is stopped from moving along a path imposed by others (Milosevic et al., 2023).

Milosevic et al (2023) stated the trend of the social environment has been changing toward what we call the fourth industrial revolution. This transformation is powered by artificial intelligence, which is closely connected to the information technologies industry. AI studies have expanded into a variety of fields, including learning and education. We believe there are significant roles where AI can contribute, such as dealing with the complex problems related to children. With the globalization of AI applications and convergence effects, research in this field is critical for South Korea, which has been pushing for the fostering of systems in view of the IT industry. Except for the AI field, researchers were mostly interested in cyberbullying, not on the topic of bullying in a broader sense, which children are suffering from. We would like to raise general awareness and also propose an effective AI method to overcome these kinds of bullying effectively.

Bullying by children is initiated by a distress factor such as aggression. Acts of aggression know various ways of expressing one's excessive power to lean. Also, aggressive children find opportunities to dominate and provoke their peers. However, regardless of the path to the original, child-to-child victimization carries sheer physical pain. While it is difficult to establish the selection process to specifically understand bullying, in fact, in chronological order, one of these single or integrated signs could act as a dynamic function, aggressively prepared and deliberate as a process with more sequential phases. Due to the adversities of evolving external and internal systems, such as swift emotional responses and slight annoyance, the reactions of children in their enclosed environment may appear to be sudden (Ahmed et al., 2022).

Around 130 million children around the world experience bullying at school every year. Bullying is a risk factor for suicide. It is estimated that 264 million children and young people have been associated with the establishment and growth of catalytic technologies commissioned in childhood and adolescence, which will affect their security and well-being. With the rapid growth of technology, children and adolescents spend more time in school for learning purposes, needing support, guidance, and assistance from tutors, especially from teachers. School tutors can help children by playing an important role in building both the personal and social development of the children by understanding that bullying is one of the major obstacles that a child might face while attempting to exercise their basic right to access quality education.

Recent studies indicate the ability of AI to monitor children's behavior, paying attention to issues such as whether a child is being bullied or if a child is causing disruptive behavior. This capability can be used for alerting the teacher. However, these tools can only detect confidentiality agreements like knocking on a closed door. Additionally, state-of-the-art natural language processing systems can often use fine-grained user-level supervision to continue improving performance while less common and expensive label-level supervision

has not been well-studied. Collecting tens of thousands of examples of harmful behavior labeled by an overlay is unrealistic for most outcomes of potential interest. AI models for bullying detection are hard to develop and train. Although several AI models have been employed, they often use inappropriate public data and are not clear. Deploying these systems still requires installation on a user device or server, users to send a large amount of data, and the sharing of large models. Defining tailored content regulation is also challenging. Existing attempts often create overbroad restrictions. They also face labeling challenges and present practical and significant overhead.

METHOD

This socialization about impact of AI in overcoming bullying for children was implemented in one school in Pematangsiantar city in Indonesia. There were some phases in implementing it, namely phase of preparation, phase of implementation and phase of evaluation. The socialization program extended beyond a single event, incorporating follow-up sessions to reinforce the message and monitor progress. Teachers and school staff were also trained on how to recognize AI-assisted anti-bullying interventions and support students in their use. Additionally, the school implemented a digital platform where students could anonymously report bullying incidents and receive AI-guided support and resources. The program also included workshops for parents to educate them about the role of AI in combating bullying and how they could support their children at home. To measure the effectiveness of the initiative, the school conducted regular surveys and collected data on reported bullying incidents before and after the implementation of the AI-assisted interventions. The results of this program were shared with other schools in the region, sparking interest in adopting similar approaches to address bullying using AI technologies.

RESULTS AND DISCUSSION

A. AI Solutions for Bullying

Bullying is a problem that is not easy to solve, as the victims of bullying are often too embarrassed or scared to tell anyone about it. The victim left alone will cause greater harm to themselves and make it difficult for the school and parents to help. Therefore, it is necessary to use AI-related technologies to help schools and parents detect bullying in advance. Since bullying behavior is often found in multimedia social media messages such as posts or comments, most AI-related anti-bullying research uses natural language processing technology to detect such cyberbullying. Not only that, but visual content recognition is applied through computer vision technology for detecting harmful images. These AI solutions not only prevent cyberbullying but also reduce the burden of moderated content for internet companies and provide a quality online space for users.

Traditional AI-related anti-bullying research deals with unstructured data such as text and image content. However, the current life extension in real-world scenarios has occurred due to three major new requirements for AI-related bully detection. The first requirement is to use various types of data such as structured, mixed-structured, and temporal-structured data in cloud computing and big data. The second requirement is that the proposed model may be utilized as a dynamic early warning system because children and teenagers in schools may be bullied while exposed to an efficient warning system. Finally, the third requirement is to use the proposed model, which can be utilized for schools to identify bullying behavior. These three newly introduced requirements help researchers better define AI-related anti-bullying problems. Therefore, the purpose of this paper is to address three AI-related

technology-based anti-bullying research trends. This paper discusses each technology trend in detail through literature analysis and finally proposes potential research directions.

B. Potential of AI in Bullying Prevention

Currently, there is no organization or government that has been focusing on the prevention of bullying by developing much-needed AI, particularly in Indonesia. This research has suggested the use of game programming and algorithmic mechanisms to prevent bullying in elementary school children by utilizing age-sensitive artificial intelligence to activate stronger empathy levels or adaptive tasks that allow the development of pro-social brain structures. The existing AI application to improve children's creativity, intelligence, and social skills has yet to be officially integrated into the elementary school curriculum across the country.

Artificial Intelligence (AI) could contribute to issues that exist in early elementary education programs needed to solve problems such as: 1) ethical dimension; 2) skill development; 3) the role of the educator; 4) competition. In this connection, the development of a science-based strategy to prevent 4th-6th grade bullying has been proposed: 1) Utilization of game programming and algorithmic mechanisms to prevent bullying in 4th-6th graders by utilizing age-sensitive AI that activates stronger empathy levels or adaptive tasks that allow the development of pro-social brain structures; 2) Implementation of existing AI-embedded self-improvement applications, an e-learning platform that helps children aged 7-16 years to learn programming in several programming languages with AI programming especially designed for children who have not been able to learn according to their potential yet

C. Successful Implementations of AI in Bullying Prevention

Spotting the opportunity provided by AI technologies for the purpose of convincing bullies to act nicely by turning around threats, it is crucial to better understand how it is possible to deter bullying by applying different AI techniques. Five examples portraying efficient pro-social acting boosting tactics consist of sportswear equipped with technology that comes with a functioning assistant to guide a child back home using the best paths, without contacting unfaithful individuals, a platform created with a kindhearted community that monitored the work and provided feedback testing the interconnections between different possible combinations of strategies enhancing pro-social behaviors in virtual worlds present across the developed collaborative pro-social behavior builder system. Rather than standing as direct bullying prevention systems, cloud-based digital tutors and guidance for preventing further bullying by the victim and in offering specific guidance concerning what to say or do involve promising advances. At this point, it is of utmost importance to highlight the significance of establishing a fine balance between controlling and dominating the many AI interrelated deters and approaches that the AI risks incurring in underscoring bullies.

AI automated techniques complement proactive quests to identify comprehensive explanations and have a long way to go in the direction of indirectly contributing to decreasing bullying. Given the asset that they have in providing volunteered game-based learning platforms, the proposed strategy increases motivation to reduce bullying through the facilitation of building a special type of game, without directly engaging in storyline creation. In any event, in the quest to spot early signs of online bullying, which might lead to the encouragement of more amicable behaviors and ensuing health conditions and provide a hand to whoever feels the urge to operate more towards a healthier, loving approach, yet another promotion opportunity stems from them. Promising applications make use of deep learning strategies to process textual messages shared on social media by minors as well as other

available types of information, in order to determine not only whether a risk is present, but also by assessing diversity levels arising in connection with areas such as emotion, identity, and social structure in a large quantity of all available text data from different platforms.

D. Challenges and Future Directions

Several challenges should be overcome to provide a fully implemented service properly. This includes consideration of the ethical aspects of this service, not only making sure that the training is not harmful but also ensuring that schools and parents are behind the decisions and actions, as education has many social implications that must be respected. Another important challenge is user training, as more complex AI technologies allow more complex fake news to be generated and easily spread, which this research precisely tries to protect.

An evaluation of the percentage of correct answers in the specific field of different types of utterings, categories, variables, and elements using the different approaches or training methods used in the year. An analysis of performance while deployed, monitoring the use and interactions surrounding these events. An interface analysis can help not only children but also adults to better understand the social-emotional competencies and, finally, an extensive validation image dataset.

CONCLUSION

Advanced developments of AI technology have important potentials for a more sustained outcome than existing non-tech children's bullying preventive and confronting programs and methods, including decreasing the frequency of bullying actions, the impact of children's bullying, and protecting victims. Arcade video games are combining physical sports of children who support differentiating muscle groups, awareness of the body, head-torso balance, and social-coop into a full package of exercise games. AI assisted video games can detect bullying behavior motives in children from audio-visual information with different credibility weightings from the children processing game. Video games are able to react with real time help when bullying attempts were detected, for instance with relaxing music and animation, and mentor and dialog about good behavior.

Older serious functions that only address and report the conclusion of the bullying timeline at school to school authorities, affected children's relatives, teachers, social workers, and the possibility of rising crime rates, are of limited power compared to immediate help at the moment of mobbing action. Differences in the success of anti-bullying programs themselves are mentioned. These differences could be due to bullying patterns methodological weaknesses of those studies — only a small number of these programs have been evaluated — program weakness limitations, or fundamental program differences. The current body of evidence does not yield a clear picture of what makes a program effective given its consequence. Apparently, school, policy, and mental health people who try to understand children's bullying must think beyond bullying to the broader context in which bullying happens. AI-assisted systems with video guidance present through and continue school children's physical sports can identify more groups of children, resolve pressures and cooperate duties for more diversified and meaningful involvement in children's sports, and possibly diminish peer maltreatment activities.

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