



CATUR EMPATI (CEMPA): AN INNOVATIVE EDUCATIONAL GAME APPROACH TO ENHANCE EMPATHY AND PREVENT BULLYING

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Abstract

Low empathy in students is a major factor significantly driving the emergence and continuation of bullying behavior in the school environment. This study aimed to measure the effectiveness of the empathy chess educational game (catur empati – Cempa) in increasing empathy of elementary school students, analyzing the impact of Cempa on reducing physical and verbal bullying in the elementary school environment. This research employed a mixed methods approach with an explanatory sequential design. The data collection techniques included pretests-posttests, interviews, and questionnaires. The data analysis technique in this study used the N-Gain test from the pretest-posttest results and triangulation from the results of interviews and questionnaires. The results in this study show the effectiveness of the Cempa in increasing student empathy through pretest and posttest. The average N-Gain value on empathy knowledge and empathy attitudes is classified as a moderate category. Meanwhile, the average N-Gain value in the aspect of empathy action is classified as a low category. The impact of the educative game Cempa on physical and verbal bullying is also seen to have decreased bullying behavior. This is due to the level of empathy, knowledge, and attitudes of students who have increased after playing Cempa. So, it is proven that the Cempa can increase empathy to reduce bullying behavior.

INTRODUCTION

Indonesia continues to face major challenges, especially in the education sector. One of the main issues that remains a concern is bullying. Indonesia is among the countries with high levels of bullying. According to data from the Program for International Student Assessment (PISA), a study that evaluates education systems in more than 70 countries worldwide, measuring the ability of 15-year-old students in reading, mathematics, and science, Indonesia ranks fifth highest out of 78 countries regarding bullying cases in the educational environment (Asyifah et al., 2024). Furthermore, PISA noted that early childhood to adolescence in Indonesia experienced various forms of bullying, such as extortion (15%), exclusion (19%), insults (22%), threats (14%), physical actions such as being pushed or hit (18%), and being the victim of bad gossip (20%)(Oktaviany & Ramadan, 2023).

Primary school students are more vulnerable to bullying due to the lack of education about the dangers and impacts of bullying at the primary education level (Limilia & Prihandini, 2019). In addition, there are still many schools that do not provide education and understanding regarding the impact of bullying on the perpetrators and victims (Najah et al., 2022). Children at this level tend to be irritable and experience misunderstandings with their peers (Ramadhanti & Hidayat, 2022). According to available data from the Indonesian Child Protection Commission (KPAI) and the Federation of Indonesian Teachers' Unions (FSGI), primary schools are the highest contributors to bullying cases in Indonesia, with



more than 1,800 cases recorded in 2023. This data reinforces the view that primary schools are the most vulnerable environment for bullying and violence (Hopeman et al., 2020).

Bullying cases can occur in various types of schools, whether public, private, or boarding schools. Bullying is a bad behavior that is done intentionally with to hurt the victim, either physically, verbally, or psychologically. Bullying can also be said to be an attack behavior that is repeatedly carried out by people who have power over weak people. Bullying factors are divided into three, one of which is a relationship that involves an imbalance between the amount of influence and control of the parties involved (Wicaksono et al., 2021). Bullying is a type of aggressive behavior that occurs repeatedly by individuals or children who have more power than more vulnerable children, both in physical and psychological aspects, and mental health problems in children, including emotional, behavioral, and mental health disorders, have been recognized as a result by the Children's Defense Fund (CDF)(Marwan, 2023). CDF is an American non-profit organization based in Washington, D.C., that focuses on child advocacy and research. It was founded in 1973 by Marian Wright Edelman. These behaviors can leave victims feeling depressed, traumatized, and even helpless (Nur et al., 2022). A school environment dotted with bullying behaviors can hinder students' academic and non-academic development, disrupt their mental health, and create a sense of insecurity and discomfort in the area of educational institutions (Karisma et al., 2024).

At the elementary school level, the most common forms of bullying are physical and verbal bullying. Physical bullying contains elements of direct physical violence such as hitting, kicking, and grabbing, while verbal bullying includes behaviors such as mocking, slandering, or giving demeaning nicknames (Sapariah Anggraini & Dewi, 2023). Victims of both types of bullying tend to experience drastic behavioral changes, such as becoming withdrawn, losing self-confidence, experiencing trauma, and suffering from depression (Azmi et al., 2021). Bullying is very impactful and inhibits children in developing their potential, which can cause discomfort, symptoms of depression, and have an impact on the imbalance of their mental and emotional conditions (Samsudi & Muhid, 2020). Other adverse effects that occur to victims are anxiety, loneliness, low self-esteem, depression, academic decline, and other mental disorders (Andriati Reny H, 2020). These things require attention from the closest parties, namely friends around, so that bullying cases can be prevented as early as possible.

However, today's students tend to be less sensitive to the surrounding environment due to the influence of technology (Pratiwi et al., 2020). In addition, the lack of understanding of morals and ethics is one of the main factors causing bullying. In this case, the moral that is very influential on bullying cases is empathy. Empathy is one of the moral attitudes. The definition of empathy is the capacity to feel and understand the emotions experienced by others, so as to encourage the creation of a safe and comfortable social environment (Diswantika & Yustiana, 2022). Empathy also involves an attitude of wanting to help, the ability to understand the feelings and emotions of others, and being gentle in interactions (Syafitri, 2020). Four aspects of empathy according to Devis are perspective taking (a way to see conditions from other people's perceptions), fantasy (the ability to feel emotions from other people's experiences), empathic concern (attention or concern for others), personal distress (emotional or uncomfortable feelings that arise when seeing other people's suffering)(Muharammah et al., 2024).

Empathy is a component of character education. According to Lickona's theory, there are three aspects to forming good character, namely aspects of moral knowledge (moral knowing), moral feelings (moral feeling), and moral attitudes (moral doing)(Hidayati et al., 2020). Of the three aspects, empathy is included in the aspect of moral feeling. The elements in the aspect of moral feeling are understanding of identity, self-confidence, concern for others/empathy, love for goodness, self-control, and humility (Nugraheni & Firmansyah, 2021). In the world of education, empathy is also in the affective or emotional domain (Papatungan & Papatungan, 2023). Cultivating empathy in students has great potential to reduce bullying behavior in schools. Therefore, schools, families, and communities must play an active role in developing the value of empathy among students (Khisbiyah et al., 2021).

Within the scope of school, increase a student's sense of empathy can be done by applying it in learning. One learning approach that can support this is through the use of innovative educational games. The use of educational games is a game activity in which there are special rules for achieving emotional knowledge from a lesson (Lestari et al., 2023). There are several previous studies which state that: (1). Games can be used to train students to increase empathy and reduce bullying (Kurniawan et al., 2024). (2). Traditional games can teach moral values and also increase empathy in students (Syamsurrijal, 2020). (3). The snakes and ladders game can be used as a medium in increasing students' empathy, practicing cooperation, improving social skills, and increasing understanding of the game's boundary rules (Sahana et al., 2024).

Based on previous research, this study has a difference in increasing student empathy using an educational game called empathy chess (hereinafter Cempa). Cempa is conducted using the rules of a regular chess game modified using a black-and-white mystery card about physical and verbal bullying associated with empathy. This study aims to: (1). Measuring the effectiveness of educational games in increasing empathy of elementary school students. (2). Analyzing the impact of educational games on reducing physical bullying in the elementary school environment. (3). Analyzing the impact of educational games on reducing verbal bullying in the elementary school environment.

METHOD

This research uses mixed methods with explanatory sequential design. Mixed methods is an approach that combines quantitative and qualitative methods in one research process (Azhari et al., 2023). Explanatory sequential design research is an approach that combines quantitative and qualitative designs in two sequential stages. This approach is also commonly applied when researchers want to explore preliminary results from quantitative data or to confirm and clarify quantitative findings through qualitative data (Hakim Nasution et al., 2024). In this case, quantitative methods are used to measure the increase in empathy in students using pretest-posttest while qualitative methods are used to identify the decrease in physical and verbal bullying after playing the empathy chess game using interviews and questionnaires.

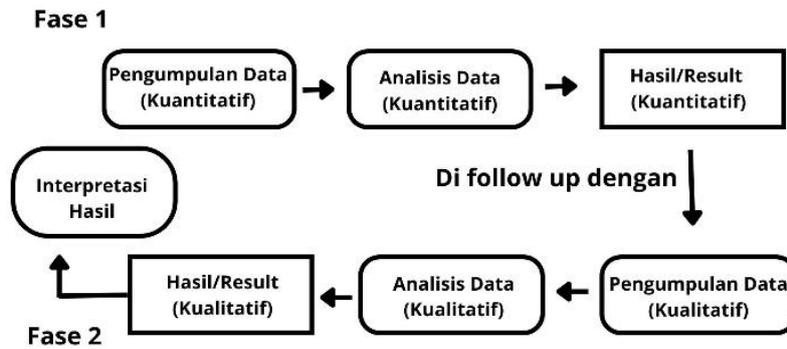


Figure 1. Prosedur Penelitian Explanatory Sequential Desain

Phase 1 was quantitative data collection using pretest-posttest. The pretest was conducted to measure students' empathy before playing cempa, while the posttest was conducted to measure students' empathy after playing cempa. The results of the pretest-posttest data were collected and analyzed using normality and N-Gain tests. After phase 1 was completed, phase 2 was continued to determine the effect of the phase 1 results. Data collection in phase 2 was conducted using interviews and questionnaires. Interviews were conducted to identify a decrease in physical bullying after playing empathy chess while questionnaires were conducted to identify a decrease in verbal bullying after playing empathy chess.

The techniques used to collect data in this study are pretest-posttest, questionnaires and interviews. Pretest-posttest was conducted to measure the increase in student empathy. Interviews to determine changes in physical bullying behavior in students. Questionnaires to determine changes in verbal bullying behavior in students.

Data analysis techniques in this study are using normality test, calculating N-Gain from pretest-posttest results and triangulating data from interviews and questionnaires. The normality test is carried out to determine whether the residuals or errors in the regression model are normally distributed (Inayah A.M et al., 2023). In addition, the normality test is also one of the requirements that must be met so that regression analysis can be carried out properly, both for prediction and hypothesis testing purposes (Pramono et al., 2021). N-Gain can be implemented to determine pretest-posttest changes and a comparison of the actual gain score with the maximum gain score (Doly Nasution et al., 2023).

$$N\text{-Gain} = \frac{\text{Posttest Score} - \text{Pretest Score}}{\text{Maximum Score} - \text{Pretest Score}}$$

Figure 2. Formula for calculating N-Gain

Figure 2 is the formula used in the calculation of N-Gain. The targeted achievement indicators in this study are the N-Gain score indicators found in Table 1 as follows.

Table 1. N-Gain criteria according to Hake

Rentang Gain Ternormalisasi	Kriteria
$g < 0,30$	Rendah
$0,70 < g \leq 0,30$	Sedang

$g \geq 0,70$

Tinggi

The population in this study were all high grade students at SDN Kalijaga Permai. Then the sample was taken using purposive sampling technique, this was done because the sample taken must be in accordance with the objectives to be achieved in this study. This study used 22 grade 5 students at SDN Kalijaga Permai as the sample. This research was conducted for 1 month. The test instruments, interviews, and questionnaires have been expertly validated by the main collaborator lecturers and co-collaborators.

RESULTS AND DISCUSSION

Results

Chess Empathy is an educational and innovative game created to increase student empathy in reducing cases of bullying in elementary schools. This game is also a combination of elements of the traditional game of chess modified with the content of social and moral values, especially the development of empathy. In this game there are several cases of bullying that can bring up and increase students' empathy. Based on this, this game focuses on character building, namely empathy, which is included in moral feeling according to Lickona's theory or affective domain. This game is also made based on empathy indicators, namely perspective taking (a way to see conditions from other people's perceptions), fantasy (the ability to feel emotions from other people's experiences), empathic concern (attention or concern for others), personal distress (emotional or uncomfortable feelings that arise when seeing other people's suffering). Based on this game, it can be said that if students' empathy increases, bullying at school can decrease, but if students have low empathy, bullying at school will increase.

The cempa game system is carried out in groups divided into 4 groups with one group having 5 or 6 students. The activity can be seen in Figures 3 and 4 below



Figure 3. Students playing Cempa



Figure 4. Students reading mystery cards in Cempa game

Figures 3 and 4 show students playing Cempa. Some information about the Cempa educational game is in Table 2 below.

Table 2. Empathy Chess Game Procedure

Aspects	Description
Game Name	Chess Empathy (CEMPA)
Visual Media	Figure 3 and Figure 4 show students playing Empathy Chess in a collaborative and interactive atmosphere.
Purpose of the Game	Increase students' sense of empathy through cases or problems regarding physical and verbal bullying.

Aspects		Description
Game Name	Chess Empathy (CEMPA)	
Step 1: turn to play	Each group member plays in turn by running the chess pieces. This step requires group strategy to win the game.	
Step 2: Pawn Stop on the square	a. If you stop at the black square → take the black mystery card b. If it stops on a white square → take the white mystery card.	
Step 3: Cards Mystery and Discussion	Players read the questions from the mystery cards about bullying cases related to empathy, then provide answers. The opposing group can respond to the answers.	
Step 4: Completion Game	The game continues until one group is declared the winner based on the agreed rules.	
Evaluation after the game	Students fill out a posttest sheet to measure empathy.	
Expected educational value	Empathy, cooperation, reflection skills, awareness of bullying issues, communication and critical thinking skills	

Source: Research Data 2025

. After playing the Cempa educational game, students were directed to fill out a posttest sheet to measure the increase in empathy through physical and verbal bullying cases. The pretest and posttest questions tested for normality can be seen in Table 3 below.

Table 3. Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1	.164	22	.129	.922	22	.084
S1	.214	22	.010	.915	22	.059
K1	.120	22	.200*	.942	22	.214
P2	.158	22	.164	.923	22	.087
S2	.223	22	.006	.919	22	.072
K2	.121	22	.200*	.945	22	.250

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The data collected in this study are pretest and posttest data as quantitative data while interview and questionnaire data as narrative data. Pretest and posttest data will first be tested for normality using the Shapiro Wilk method because the sample is <50. This test is carried out to check whether the data is normally distributed or not. The normality test was calculated using the SPSS 25 application. Based on this test, it was found that the significance value of P1 = 0.084; S1 = 0.059; K1 = 0.214; P2 = 0.087; S2 = 0.072; K2 = 0.250. The significance value that is the reference in making a normality test decision is that a significance value > 0.05 can be declared normally distributed while a significance value <0.05 can be declared abnormally distributed. Judging from the results of the normality test

that all data shows a significance value > 0.05 , it can be concluded that the data collected is normally distributed. After the data is declared normal, the data collected will be calculated the N-Gain value.

Effectiveness of Educational Games on Enhancing Empathy of Elementary School Students

The effectiveness of the Cempa educational game is measured through the N-Gain value of empathy knowledge, empathy attitudes, and empathy actions that refer to empathy indicators, namely perspective taking (a way to see conditions from other people's perceptions), fantasy (the ability to feel emotions from other people's experiences), empathic concern (attention or concern for others), personal distress (emotional or uncomfortable feelings that arise when seeing other people's suffering). This data is quantitative data which will be a reference to see whether there is an increase or not in student empathy. In this case, empathy knowledge is measured to build the concept of empathy to students, then continued by measuring empathetic attitudes in students, and finally measuring the extent to which students' empathetic actions are carried out. These measurements are expected to determine the increase in student empathy after playing empathy chess (cempa). The following are the results of the N-Gain test which can be seen in Table 4 to Table 9:

Table 4. Empathy Knowledge N-Gain Measurement Data

No	Nama	Pretest	Posttest	N-Gain	Kriteria
1.	R1	52	78	0.54	Sedang
2.	R2	80	88	0.40	Sedang
3.	R3	75	83	0.32	Sedang
4.	R4	76	84	0.33	Sedang
5.	R5	85	89	0.27	Rendah
6.	R6	70	78	0.27	Rendah
7.	R7	60	68	0.20	Rendah
8.	R8	86	92	0.43	Sedang
9.	R9	90	92	0.20	Rendah
10.	R10	78	86	0.36	Sedang
11.	R11	89	90	0.09	Rendah
12.	R12	67	75	0.24	Rendah
13.	R13	71	79	0.28	Rendah
14.	R14	57	80	0.53	Sedang
15.	R15	71	79	0.28	Rendah
16.	R16	57	80	0.53	Sedang
17.	R17	85	89	0.27	Rendah
18.	R18	57	81	0.56	Sedang
19.	R19	43	79	0.63	Sedang
20.	R20	88	90	0.17	Rendah
21.	R21	85	89	0.27	Rendah
22.	R22	90	92	0.20	Rendah

Source: Research Data 2025

The average N-Gain data of empathy knowledge can be seen in Table 5 below.

Table 5. Results of the Average Knowledge N-Gain measurement

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
NGain	22	.09	.63	.3348	.14658
Valid N (listwise)	22				

Table 4 is a comparison of pretest and posttest seen from the N-Gain test results. Based on N-Gain decision making, 10 students are classified as moderate category, then 12 students are classified as low category. However, based on the average N-Gain value in table 5, namely 0.3348, it falls into the moderate category according to Hake's N-Gain achievement indicator.

Table 6. N-Gain Measurement Data of Empathy Attitude

No	Nama	Pretest	Posttest	N-Gain	Kriteria
1.	R1	66	80	0.41	Sedang
2.	R2	72	80	0.29	Rendah
3.	R3	83	91	0.47	Sedang
4.	R4	80	88	0.40	Sedang
5.	R5	88	95	0.58	Sedang
6.	R6	79	87	0.38	Sedang
7.	R7	67	78	0.33	Sedang
8.	R8	67	75	0.24	Rendah
9.	R9	83	91	0.47	Sedang
10.	R10	83	91	0.47	Sedang
11.	R11	85	93	0.53	Sedang
12.	R12	69	81	0.39	Sedang
13.	R13	87	94	0.54	Sedang
14.	R14	70	88	0.33	Sedang
15.	R15	75	83	0.32	Sedang
16.	R16	83	91	0.47	Sedang
17.	R17	83	91	0.47	Sedang
18.	R18	78	86	0.36	Sedang
19.	R19	73	81	0.30	Sedang
20.	R20	86	94	0.57	Sedang
21.	R21	83	91	0.47	Sedang
22.	R22	76	84	0.33	Sedang

Source: Research Data 2025

The average N-Gain data for empathy can be seen in Table 7 below

Table 7. Average N-Gain measurement results of Attitude

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation

NGain	22	.24	.58	.4154	.09637
Valid N (listwise)	22				

Table 6 is a comparison of pretest and posttest seen from the N-Gain results. Based on N-Gain decision making, there are 20 students in the medium category and 2 students in the low category. For the average N-Gain value of attitudes in table 7, namely 0.4154, it is classified as a moderate category according to Hake's N-Gain achievement indicator.

Table 8. N-Gain Measurement Data in Empathy Measures

No	Nama	Pretest	Posttest	N-Gain	Kriteria
1.	R1	68	73	0.16	Rendah
2.	R2	85	90	0.33	Sedang
3.	R3	72	79	0.25	Rendah
4.	R4	79	84	0.24	Rendah
5.	R5	80	85	0.25	Rendah
6.	R6	83	88	0.29	Rendah
7.	R7	70	75	0.17	Rendah
8.	R8	75	80	0.20	Rendah
9.	R9	84	89	0.31	Sedang
10.	R10	89	94	0.45	Sedang
11.	R11	85	90	0.33	Sedang
12.	R12	78	83	0.23	Rendah
13.	R13	79	84	0.24	Rendah
14.	R14	88	93	0.42	Sedang
15.	R15	86	91	0.36	Sedang
16.	R16	82	87	0.28	Rendah
17.	R17	78	83	0.23	Rendah
18.	R18	68	73	0.16	Rendah
19.	R19	69	74	0.16	Rendah
20.	R20	73	78	0.19	Rendah
21.	R21	65	70	0.14	Rendah
22.	R22	68	73	0.16	Rendah

Source: Research Data 2025

The average N-Gain data in empathy measures can be seen in Table 9 below.

Table 9. Results of the Average N-Gain measurement in Empathy Measures

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
NGain	22	.14	.45	.2516	.08789
Valid N (listwise)	22				

Table 8 is a comparison of pretest and posttest seen from the N-Gain results. Based on N-Gain decision making, there are 6 students classified as moderate category and 16

students classified as low category. For the average N-Gain value of skills in table 9 is 0.2516 which is classified as a low category according to Hake's N-Gain achievement indicator.

The Impact of Educational Games on Reducing Physical Bullying in Elementary Schools

in each question, students one by one gave their opinions which were then analyzed and presented in an interview result as follows:

"After you play the educational game Catur Empati (Cempa), what will you do when you see the bully kicking the victim of bullying" from the first interview question, the answer is "we will help the victim of bullying by reporting the bully to the teacher so that the incident does not happen again."

"After you have played the educational game Catur Empati (Cempa), what do you think when your friend pulls your veil in front of your classmates?" from the second interview question, the answer is "pulling a friend's veil is included in bad behavior because it is not polite. In addition, pulling a friend's veil can endanger the victim because we don't know if the victim is wearing a safety pin or not."

"After you have played the empathy chess educational game (Cempa), what would you do if you were a victim of bullying who was beaten by the perpetrator?" From the third interview question, the answer is "we will tell the perpetrator that this action is a dangerous action, we are reluctant to fight back and prevent from getting a second blow and if the perpetrator does not accept it we will report directly to the teacher and parents."

"After you have played the educational game Catur Empati (Cempa), is kicking a friend included in good or bad behavior?" From the fourth interview question, the answer is that "the action is not good because the behavior is dangerous and the victim can be injured."

"After you have played the educational game Chess Empathy (Cempa), what will you do when there are bullies who intimidate victims?" from the fifth interview question, the answer is "we will report to the teacher so that the perpetrator gets punished and provide motivation to the victim, but some of us also choose to remain silent because we are afraid of being affected by the problem".

"After you have played the educational game of empathy chess (Cempa), what is your opinion for the bully who always hurts the victim?" from the sixth interview question, the answer is "the bully must get a special warning and appropriate punishment. If the perpetrator repeats himself, the perpetrator must be expelled from school."

"After you play the educational game Catur Empati (Cempa), what is your opinion when your belongings are damaged by your friends?" from the seventh interview question, the answer is "we will apologize and replace it."

The Impact of Educational Games on Reducing Verbal Bullying in Elementary School

The results of the questionnaire are presented in the form of a circle graph which can be seen in Figure 5 below

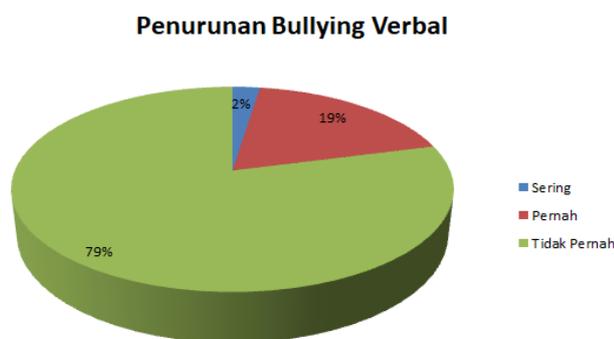


Figure 5. Verbal Bullying Reduction Questionnaire Chart

Graph 5 states that 79% of students answered that they have never done verbal bullying behavior after playing the empathy chess educational game, 19% answered that they have done verbal bullying after playing the empathy chess educational game, and 2% answered that they still often do verbal bullying after playing empathy chess.

Discussion

Effectiveness of Educational Games on Enhancing Empathy of Elementary School Students

Based on the average N-Gain value in measuring empathy knowledge, which is 0.3348, it falls into the moderate category according to Hake's N-Gain achievement indicator. It can be said that students already know about the concept of empathy. The concept of empathy itself can be called cognitive empathy, which is the point of view of individuals trying to understand the thoughts and feelings of others (Nurdin & Fakhri, 2020). This is included in the empathy indicator, namely perspective taking. An increase in cognitive empathy can have an effect on decreasing bullying behavior in students. Students who already know about the concept of empathy will cause an empathetic attitude in themselves. Based on the measurement of the average N-Gain value on the attitude of empathy, namely 0.4154, it is classified as a moderate category according to the indicator of N-Gain achievement according to Hake. This shows that there is a correlation between the concept of empathy and the empathetic attitude that is raised.

This can be seen from the increase in the average number of N-Gain scores of both. This empathy attitude refers to the empathy indicators, namely fantasy and empathic concern. Fantasy is a person's ability to imagine himself in another person's position and situation even though he does not experience it directly (Maulina & Budiyo, 2021). Empathic concern is a feeling of care and sympathy for others, which makes a person motivated to pay attention and help (Murti & Heryanto, 2020). In this case, fantasy and empathic concern play an important role in forming a good and complete empathic attitude so that it can encourage positive behavior towards others. In addition, increasing empathic attitudes makes students sensitive to their surroundings. One of the solutions in preventing bullying is to build empathetic attitudes in students from an early age (Wulandari & Ningsih, 2023). After the existence of an empathetic attitude within themselves, students can carry out these empathetic actions to the surrounding environment. This empathic action is included in personal distress. Empathic action itself is a behavior that arises to feel (affective) and understand (cognitive) which is then manifested in the form of caring behavior (empathy)

(Andriati et al., 2019). Then the definition of personal distress is a form of anxiety that occurs in oneself that causes a sense of anxiety in dealing with unpleasant interpersonal settings (Harianja & Nurihsan, 2016). Furthermore, based on the average N-Gain value of empathy actions, namely 0.2516, which is classified as a low category according to Hake's N-Gain achievement indicator. So it can be stated that the relationship between empathic attitudes and empathic actions is still lacking. The cause of the lack or low level of empathy actions occurs because the school environment is not positive, stressful, discriminatory attitudes or lack of exemplary and empathy from teachers and parties involved, making children ignorant and aggressive (Mulyawati et al., 2022). In addition, low empathy can make them more likely to act aggressively, endanger themselves and others, and be apathetic towards the environment (Mariskha & Umaroh, 2019).

Looking at some of these things, it can be concluded that the educational game of empathy chess can only increase empathic knowledge and empathic attitudes in students, but has not been able to increase students' empathic actions in the surrounding environment. Even so, by increasing these two aspects, it can reduce the level of bullying in the elementary school environment. This can be seen from the results of interviews and student questionnaires

The Impact of Educational Games on Reducing Physical Bullying in Elementary Schools

Physical bullying behavior in elementary schools is indeed very much, one of the cases of physical bullying that occurred in grade 5 based on the results of observations by researchers, namely by finding the case of one student who was bullied by a group of students by being locked in the classroom. The student who was bullied experienced considerable trauma with a drastic change in behavior to become quiet. In addition, other cases of physical bullying were found, namely the incident of students being pulled by their stools when they wanted to sit down. The incident did not cause the student to experience severe injury, it was just that the student experienced the pain obtained from falling from the chair. This study also looked at whether there was a decrease in physical bullying behavior in students after playing the empathy chess educational game (Cempa). After playing the educational game of empathy chess (Cempa), students were interviewed in groups regarding changes in behavior towards physical bullying.

From the results of the interview, it can be concluded that the educational game Catur Empati (Cempa) has a positive impact and has changed the treatment of physical bullying in the elementary school environment. Educational games make students more active in learning and build students' creativity and courage (Meilita et al., 2023). In addition, students not only understand that bullying is very wrong, but they also begin to show courage to act, both in protecting the victim, advising the perpetrator, and reporting the incident to teachers or others. In this case, it shows that educational games are very effective in shaping children's character from a young age, especially building empathy and high social awareness. Educational games are very effective in the learning process and shaping children's character (Tuti Hidayati, 2022). Character building and empathy are important in every individual (Ahmad Mahzumi, 2024).

The Impact of Educational Games on Reducing Verbal Bullying in Elementary Schools

There are many cases of verbal bullying in elementary schools. Some of the cases that occurred based on observations during the research were physical mocking, mocking parents, and spreading slander so that the victim did not want to go to school. This can be caused by a lack of education on understanding bullying and student empathy. This study also looked at whether there was a decrease in verbal bullying behavior in students after playing the Cempa educational game. After playing the Cempa educational game, students were given directions to fill out a questionnaire to determine the impact of educational games on verbal bullying behavior.

Based on the results of the questionnaire, more students chose not to verbally bully their friends after playing the empathy chess educational game. Of this 79%, some stated that after playing the empathy chess educational game they were more aware of the impact of bullying and the feelings felt by the victim. In addition, students have also understood the concept of empathy which creates an empathetic attitude within themselves. Based on this, it can be stated that the educational game of empathy chess can reduce verbal bullying behavior in elementary schools. The discussion is in line with research which states that the use of educational game media can shape and help students to reduce bullying behavior through increased understanding of bullying and empathy (Marhaely et al., 2024).

CONCLUSION

In reducing cases of bullying in elementary schools, it can be done by increasing student empathy. Increasing student empathy in this study uses an educational game called empathy chess. The effectiveness of empathy chess educational games on elementary school students is measured based on empathy knowledge, empathy attitudes and empathy actions that refer to empathy indicators, namely perspective taking (a way to see conditions from other people's perceptions), fantasy (the ability to feel emotions from other people's experiences), empathic concern (attention or concern for others), personal distress (emotional or uncomfortable feelings that arise when seeing other people's suffering). It can be stated that there is an increase in student empathy through the addition of empathic knowledge and empathic attitudes. However, this increase does not look the same in empathy actions. Judging from the results of the average N-Gain value of empathy action is included in the low category. This was triggered by unfavorable classroom conditions with a lack of open interaction from some students, low self-confidence among students and a lack of trust between classmates which caused students to be reluctant to express their feelings and opinions. Based on this, it can be concluded that there has been no significant change in students' empathy actions. In handling cases of bullying, students tend to act to leave it to the teacher.

The impact of this educational game on physical and verbal bullying in elementary schools can be seen from the decrease in physical and verbal bullying behavior. After playing the empathy chess educational game, students can understand that bullying behavior is wrong, students already know the consequences of bullying so that they feel guilty if they do this, students also show a brave attitude to act, both in protecting the victim, advising the perpetrator, and reporting the incident to the teacher. To create a school environment free from bullying, it can be further strengthened by good empathy actions. In this case, the role of homeroom teachers is needed in building an approach

strategy for students to strengthen their confidence in acting or doing something good. This approach can be done by implementing a routine morning talk or circle time program to encourage students to share their stories openly. Future research can focus on how to increase empathy actions to reduce bullying behavior.

REFERENCES

- Ahmad Mahzumi, D. (2024). Kesesuaian Peran Guru Pada Strategi Resolusi Konflik Untuk Meningkatkan Empati Dan Keterampilan Sosial Siswa Di Sekolah Dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 09, 355–367.
- Andriati, N., Atika, A., & Yuditio, P. R. (2019). Meningkatkan Sikap Empati Siswa SMP melalui Layanan bimbingan kelompok dengan Teknik Sociodrama. *Edukasi: Jurnal Pendidikan*, vol 17 No, 68–79.
- Andriati Reny H, A. D. N. A. (2020). Hubungan Harga Diri Dan Pengetahuan Tentang Bullying Dengan Perilaku Bullying Pada Remaja. *Jurnal Ilmiah Keperawatan Altruistik*, 3(2), 28–37. <https://doi.org/10.48079/vol3.iss2.57>
- Asyifah, C., Firmansyah, M. A., & Budiman, D. A. (2024). Kasus Bullying Dunia Pendidikan di Indonesia dari Perspektif Media dan Pemberitaannya. *Syntax Literate; Jurnal Ilmiah Indonesia*, 9(1), 374–383. <https://doi.org/10.36418/syntax-literate.v9i1.14855>
- Azhari, D. S., Afif, Z., Kustati, M., & Sepriyanti, N. (2023). Penelitian Mixed Method Research untuk Disertasi. *INNOVATIVE: Journal Social Science Research*, 3(2), 8010–8025.
- Azmi, I. U., Nafi'ah, N., Thamrin, M., & Akhwani, A. (2021). Studi Komparasi Kepercayaan Diri (Self Confidence) Siswa yang Mengalami Verbal Bullying dan Yang Tidak Mengalami Verbal Bullying di Sekolah Dasar. *Jurnal Basicedu*, 5(5), 3551–3558. <https://doi.org/10.31004/basicedu.v5i5.1389>
- Diswantika, N., & Yustiana, Y. R. (2022). Model Bimbingan Dan Konseling Bermain Cognitive-Behavior Play Therapy Untuk Mengembangkan Empati Mahasiswa. *Jurnal Mahasiswa BK An-Nur: Berbeda, Bermakna, Mulia*, 8(1), 40. <https://doi.org/10.31602/jmbkan.v8i1.6215>
- Doly Nasution, M., Ramadhan, R., Kunci, K., & Pemecahan Masalah, K. (2023). Pengaruh Model Pembelajaran Problem Solving Terhadap Kemampuan Pemecahan Masalah Siswa Kelas VIII SMPIT Miftahul Jannah. *Journal Of Social Science Research*, 3, 260–268.
- Hakim Nasution, F., Syahrani Jailani, M., & Junaidi, R. (2024). Kombinasi (Mixed-Methods) Dalam Praktis Penelitian Ilmiah. *Journal Genta Mulia*, 15(2), 251–256. <https://ejournal.stkipbbm.ac.id/index.php/gm>
- Harianja, S. I., & Nurihsan, A. J. (2016). Pendidikan sebagai Perjalanan Spiritual. *Jurnal Kependidikan*, 2(1), 59–71.
- Hidayati, N. A., Waluyo, H. J., Winarni, R., & Suyitno. (2020). Exploring the implementation of local wisdom-based character education among Indonesian higher education students. *International Journal of Instruction*, 13(2), 179–198. <https://doi.org/10.29333/iji.2020.13213a>
- Hopeman, T. A., Suarni, K., & Lasmawan, W. (2020). Dampak Bullying Terhadap Sikap Sosial Anak Sekolah Dasar (Studi Kasus Di Sekolah Tunas Bangsa Kodya Denpasar). *PENDASI: Jurnal Pendidikan Dasar Indonesia*, 4(1), 52–63. www.kpai.go.id/profil
- Inayah A.M, M., Lolotandung, R., & Irmawati M. (2023). Pengaruh Model Pembelajaran PAKEM Terhadap Hasil Belajar IPA Siswa Di Sekolah Dasar. *Elementary Journal: Jurnal Pendidikan Guru Sekolah Dasar*, 6(1), 29–38.

<https://doi.org/10.47178/elementary.v6i1.2056>

- Karisma, N., Rofiah, A., Afifah, S. N., & Manik, Y. M. (2024). Kesehatan Mental Remaja dan Tren Bunuh Diri: Peran Masyarakat Mengatasi Kasus Bullying di Indonesia. *Edu Cendikia: Jurnal Ilmiah Kependidikan*, 3(03), 560–567. <https://doi.org/10.47709/educendikia.v3i03.3439>
- Khisbiyah, Y., Lestari, S., Purwanto, A., & Hidayat, Y. (2021). Memupuk Sikap Empati Anak Melalui Permainan Tradisional Gobag Sodor, Sundaname dan Boy-Boyan. *Society: Jurnal Pengabdian Dan Pemberdayaan Masyarakat*, 2(1), 75–81. <https://doi.org/10.37802/society.v2i1.180>
- Kurniawan, K., Rahmawati Nur Baeti, Anisa Nur Afifah, Elsa Rizky Oktafierna, & Lia Ustami. (2024). Games Sebagai Intervensi Pencegahan Bullying Pada Anak Usia 6-18 Tahun: Scoping Review. *Jurnal Ilmiah Permasa: Jurnal Ilmiah STIKES Kendal*, 14(1), 227–236. <https://doi.org/https://doi.org/10.32583/pskm.v14i1.1544>
- Lestari, N. C., Hidayah, Y., & Zannah, F. (2023). Penerapan Metode Pembelajaran Permainan Edukatif Terhadap Hasil Belajar IPA di SDN 1 Sungai Miai 7 Banjarmasin. *Journal on Education*, 5(3), 7095–7103. <https://doi.org/10.31004/joe.v5i3.1497>
- Limilia, P., & Prihandini, P. (2019). Penyuluhan Stop Bullying sebagai Pencegahan Perundungan Siswa di SD Negeri Sukakarya, Arcamanik - Bandung. *ABDI MOESTOPO: Jurnal Pengabdian Pada Masyarakat*, 2(01), 12–16. <https://journal.moestopo.ac.id/index.php/abdimoestopo/article/view/690>
- Marhaely, S., Purwanto, A., Aini, R. N., Asyanti, S. D., Sarjan, W., & Paramita, P. (2024). Literatur Review: Model Edukasi Upaya Pencegahan Bullying Untuk Sekolah. 2024, 5(1), 826–834. <https://doi.org/https://doi.org/10.31004/jkt.v5i1.25398>
- Mariskha, S. E., & Umaroh, S. K. (2019). Bermain Peran untuk Meningkatkan Empati pada Anak Usia Sekolah Dasar SD "X" di Samarinda (Experiential Method). *Motiva: Jurnal Psikologi*, 1(1), 1–9. <http://ejurnal.untag-smd.ac.id/index.php/MV/article/view/4016/3853%0Ahttp://ejurnal.untag-smd.ac.id/index.php/MV/article/view/4016>
- Marwan, D. W. (2023). Peningkatan Pengetahuan Bahaya dan Dampak Bullying Kepada Remaja SMP Negeri 39 Pekanbaru. *Jdistira*, 3(2), 61–65. <https://doi.org/10.58794/jdt.v3i2.534>
- Maulina, I., & Budiyono, A. (2021). Peran Keluarga Dalam Pengelolaan Emosi Anak Usia Golden Age Di Desa Gambarsari. *Jurnal Mahasiswa BK An-Nur: Berbeda, Bermakna, Mulia*, 7(1), 21. <https://doi.org/10.31602/jmbkan.v7i1.3404>
- Meilita, I., Timur, L. S., & Asbari, M. (2023). Pendidikan Melalui Permainan: Membangun Kreativitas dan Inovasi pada Generasi Digital. 02(05), 68–72.
- Muharammah, N. W., Setiyowati, A. J., & Flurentin, E. (2024). Pengembangan "Perasaan Kita" sebagai Upaya Internalisasi Empati pada Siswa SMP. *Buletin Konseling Inovatif*, 1(2), 64–73. <https://doi.org/10.17977/um059v1i22021p64-73>
- Mulyawati, Y., Marini, A., & Nafiah, M. (2022). Pengaruh Empati Terhadap Perilaku Prosocial Peserta Didik Sekolah Dasar. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, 12(2), 150–160. <https://doi.org/10.24246/j.js.2022.v12.i2.p150-160>
- Murti, S., & Heryanto. (2020). Relevansi Prestasi Belajar Sebagai Prediktor Perilaku Empati Di SMA Negri 5 Samarinda. *Jurnal Ilmiah Wahana Pendidikan*, 6(3), 295–307. <https://doi.org/10.5281/zenodo.3960163>
- Najah, N., Sumarwiyah, S., & Kuryanto, M. S. (2022). Verbal Bullying Siswa Sekolah Dasar dan pengaruhnya terhadap hasil belajar. *Jurnal Educatio FKIP UNMA*, 8(3), 1184–1191. <https://doi.org/10.31949/educatio.v8i3.3060>

- Nugraheni, Y. T., & Firmansyah, A. (2021). Model Pengembangan Pendidikan Karakter di Pesantren Khalaf (Studi Kasus di Pondok Pesantren Modern Muhammadiyah Boarding School Yogyakarta). *Quality*, 9(1), 39. <https://doi.org/10.21043/quality.v9i1.9887>
- Nur, M., Yasriuddin, Y., & Azijah, N. (2022). Identifikasi Perilaku Bullying Di Sekolah (Sebuah Upaya Preventif). *Al-Madrasah: Jurnal Pendidikan Madrasah Ibtidaiyah*, 6(3), 685. <https://doi.org/10.35931/am.v6i3.1054>
- Nurdin, M. N., & Fakhri, N. (2020). Perbedaan Empati Kognitif Dan Empati Afektif Pada Remaja Laki-Laki Dan Perempuan. *Jurnal Psikologi TALENTA*, 2(2), 11. <https://doi.org/10.26858/talenta.v2i2.13199>
- Oktaviany, D., & Ramadan, Z. H. (2023). Analisis Dampak Bullying Terhadap Psikologi Siswa Sekolah Dasar. *Jurnal Educatio FKIP UNMA*, 9(3), 1245–1251. <https://doi.org/10.31949/educatio.v9i3.5400>
- Paputungan, E., & Paputungan, F. (2023). Pendekatan Dan Fungsi Affektif Dalam Proses Pembelajaran The Role And Function Of Affective Approaches In Learning. *Media Online) Journal of Education and Culture (JEaC)*, 3(1), 2986–1012. <https://doi.org/https://doi.org/10.47918/jeac.v3i1.1136>
- Pramono, A., Tama, T. J. L., & Waluyo, T. (2021). Analisis Arus Tiga Fasa Daya 197 Kva Dengan Menggunakan Metode Uji Normalitas Kolmogorov-Smirnov. *Jurnal RESISTOR (Rekayasa Sistem Komputer)*, 4(2), 213–216. <https://doi.org/10.31598/jurnalresistor.v4i2.696>
- Pratiwi, L., Nurhayati, T., Patimah, P., & Atikoh, N. (2020). The Effect of Independence Education in Islamic Boarding School on the Development of Emotional Intelligence of Elementary School Students. *Al Ibtida: Jurnal Pendidikan Guru MI*, 7(1), 85. <https://doi.org/10.24235/al.ibtida.snj.v7i1.5147>
- Ramadhanti, R., & Hidayat, M. T. (2022). Strategi Guru dalam Mengatasi Perilaku Bullying Siswa di Sekolah Dasar. *Jurnal Basicedu*, 6(3), 4566–4573. <https://doi.org/10.31004/basicedu.v6i3.2892>
- Sahana, Y., Wahyuni, S., Jannah, S. R., & Faiqotul, S. (2024). Permainan Ular Tangga Sebagai Media Pemahaman Bullying Di Sekolah Menengah Pertama. *Jurnal Review Pendidikan Dan Pengajaran*, 7(2), 6187–6192. <https://doi.org/https://doi.org/10.31004/jrpp.v7i2.28677>
- Samsudi, M. A., & Muhid, A. (2020). Efek Bullying Terhadap Proses Belajar Siswa. *SCAFFOLDING: Jurnal Pendidikan Islam Dan Multikulturalisme*, 2(02), 122–133. <https://doi.org/10.37680/scaffolding.v2i02.466>
- Sapariah Anggraini, & Dewi, S. K. (2023). Edukasi remaja tentang pengenalan jenis perilaku bullying di sekolah melalui metode role plays. *Transformasi: Jurnal Pengabdian Masyarakat*, 19(1), 83–92. <https://doi.org/10.20414/transformasi.v19i1.6880>
- Syafitri, S. M. (2020). Menumbuhkan Empati Dan Perilaku Prosocial Terhadap Anak Usia Dini Dalam Menanggapi Pelajaran Isu Dunia Nyata. *Jurnal Visi Ilmu Pendidikan*, 12(2), 140. <https://doi.org/10.26418/jvip.v12i2.34049>
- Syamsurrijal, A. (2020). Bermain Sambil Belajar: Permainan Tradisional Sebagai Media Penanaman Nilai Pendidikan Karakter. *ZAHRA: Research and Thought Elementary School of Islam Journal*, 1(2), 1–14. <https://doi.org/10.37812/zahra.v1i2.116>
- Tuti Hidayati, E. B. (2022). Pengaruh Penggunaan Aplikasi Quizizz Sebagai Game Edukasi Untuk Meningkatkan Kemampuan Kognitif Anak Usia Dini Di TK Anak Bangsa. *Al Abyadh*, 5(1), 42–50.
- Wicaksono, H., Hibatulloh, K. J., & Ningrum, P. (2021). Hubungan Penggunaan Sosial Media Dengan Perilaku Bullying Pada Remaja Di Smk Sepuluh November Sidoarjo. *J-ABDI:*

Jurnal Pengabdian Kepada Masyarakat, 1(5), 813–824.
<https://doi.org/10.53625/jabdi.v1i5.381>

Wulandari, H., & Ningsih, S. A. (2023). Penguatan Pendidikan Karakter Sejak Dini Untuk Melawan Aksi Bullying Era Revolusi 5.0. *Innovative: Journal Of Socisl Sciece Research*, 3(2), 14773–14787.