

The Influence of Gadget Use on the Empathy of Junior High School Students in Palu City

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ABSTRACT

This study aims to determine the effect of gadget use on the empathy of junior high school students in Palu City. This study uses a quantitative descriptive approach with a cluster sampling technique. The population in this study comprises all students of Junior High School Model Terpadu Madani and Junior High School 19 Palu. Data were collected using a validated Likert-scale questionnaire on gadget use and empathy, both of which demonstrated good reliability ($\alpha = 0.914$ and $\alpha = 0.885$, respectively). Data analysis used descriptive statistics and simple linear regression using SPSS version 26. The results showed that 78.0% of students used gadgets highly, and 64.3% showed high empathy. The regression results showed a positive and significant effect of gadget use on empathy ($t = 3.653$, $p < 0.05$), with a regression coefficient of 0.193. These results indicate that gadget use affects students' empathy, feelings, and understanding of the suffering of others who experience disasters through exposure to or visual content on gadgets. This fosters empathy as seen from large-scale online donations. Through emotional narratives and content, social awareness and empathy can be increased.

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1. INTRODUCTION

Humans are social creatures who require the participation of others to thrive and fulfill all their needs. This is because humans naturally do not live alone and are always dependent on the interaction and assistance of others to fulfill their needs. Everyone is interdependent as social beings. As we know, humans are social creatures who depend on others for survival. Therefore, empathy or caring is essential for a happy and fulfilling life [1].

Empathy is a core moral emotion that helps a person understand others' feelings. Empathy makes a person sensitive to others' needs and feelings, motivates them to help those who are suffering or in distress, and requires them to treat others with care and compassion [2]. Empathy is the ability to understand, care for, and pay attention to others.

Using empathy in everyday life is crucial because it fosters respect and appreciation for others, encouraging a person to accept diversity [3]. Empathy is the ability an individual possesses to respond to the experiences of others and understand their emotions, thoughts, and attitudes. According to Davis, the aspects that include the ability to empathize are divided into 2 aspects, namely: (1) Cognitive aspects, including perspective taking and imagination (fantasy). (2) Emotional aspects, including empathic concern and personal distress [4].

Empathy is a cognitive-based ability that is part of a social skill that can be learned. Empathy encompasses more than simply putting oneself in another person's shoes by understanding their thoughts, feelings, and circumstances, or by knowing what they are experiencing [5]. It also involves positive communication and recognizing and understanding others' emotional experiences. Technological developments are one factor influencing empathy [6].

Advances in communication and information technology have driven significant technological changes. Gadgets are one type of information technology currently in development. Gadget use has become a crucial necessity in today's life, especially for those with high mobility. Technology has developed so rapidly that it has unwittingly influenced every aspect of human life [7].

Gadgets are sophisticated, useful technological devices with various functions tailored to their specific purposes. Gadgets are media used as tools for modern communication [8]. In short, gadgets are sophisticated technologies with a variety of functions that can influence a person's behavior. Both adults and children are vulnerable to the impacts of gadget use. With the use of gadgets, people can now complete previously difficult tasks, making them easier to do, supporting human activities. However, gadgets also have a significant impact on those around them because they cause individuals to lose their sense of time and become dependent on them [9]. This dependency is one of the negative impacts of gadget use, which can make children less aware of their surroundings. This dependence on gadgets is high, with approximately 79% of children experiencing it due to a lack of parental supervision [10].

Uncontrolled gadget use can disrupt social interactions and lead to changes in social behavior, such as selfishness and individualism, characterized by a lack of friendliness among students and a decrease in empathy and caring attitudes. Similarly, adolescents and school students, who are in the cognitive and emotional developmental stage, are particularly concerned about the decline in empathy due to their dependence on technology [11].

Excessive and inappropriate gadget use can cause a person to lose awareness of their surroundings. Students' social development, particularly their ability to form social bonds and engage in social behavior, can be disrupted by these devices [12]. However, thanks to gadgets, human communication has now become easier. Communication has become more sophisticated with the discovery of technology [13]. Besides being a means of communication with the outside world, gadgets can also be a friend, filling free time with games, surfing the internet, listening to music or the radio, and immortalizing

memories through pictures or videos. However, the use of gadgets has changed how people behave, especially in caring for others [14].

Therefore, gadgets are often likened to a double-edged sword, possessing both advantages and disadvantages. Children's social relationships with their surroundings can be negatively affected, as social relationships must be built on social skills, which develop or are acquired through frequent, direct, face-to-face interaction. However, when using gadgets, these elements of direct interaction are diminished, leading children to become apathetic due to their constant fixation on their gadgets [15].

Similarly, children and adolescents in the cognitive and emotional developmental stages raise concerns among parents about a decline in their children's caring and empathy due to their dependence on gadgets [16]. Therefore, parents, educators, the government, and the wider community must play a role in regulating and supervising the safe and efficient use of gadgets. In the current digital era, maximizing parents' role as supervisors during children's developmental phases is crucial [17].

Field observations indicate low levels of empathy. Several critical social factors that shape empathetic character are slowly beginning to collapse, including weak parental supervision, a lack of empathetic role models, minimal spiritual education, poor parenting, and schools that don't provide sufficient stimulation for the development of empathy. In addition to these issues, students continue to receive external input that contradicts norms. This challenge is compounded by negative influences from a variety of easily accessible sources, such as movies, video games, and the internet, all available through gadgets.

The foundation of all human interaction is empathy. We can build strong bonds with others by understanding their emotional states. Empathetic responses are influenced by two factors: cognitive and affective characteristics. Cognitive responses in understanding another person's feelings are generally referred to as empathy. Counselors generally place greater emphasis on their ability to attune to a client's emotions [18]. Empathy is the ability to understand, feel, and put oneself in another person's shoes, regarding their circumstances, perspectives, and emotions. Empathy is not simply about what another person is feeling, but also about recognizing and understanding their emotional experiences and communicating positively [19].

Based on initial observations conducted at a junior high school in Palu City in May 2025, there was a serious lack of caring among students. This became clear when it was revealed that a number of students behaved cruelly toward their peers, mocked each other, laughed at the misfortune or bullying experienced by other students rather than offering assistance, frequently used rude and foul language, and were selfish, reluctant to lose, and sought to win at all costs without regard for those around them. This study aims to examine whether the use of gadgets significantly affects students' empathy. It is hoped that this research will make theoretical contributions to guidance and counseling and practical contributions to counselors' efforts to design and implement counseling and guidance programs that enhance student empathy. Parents can use this research as assessment material to monitor how long and how their children use gadgets.

2. METHOD

This research uses descriptive quantitative methodology. The survey method was used in this research. Survey research uses questionnaires as the main data collection tool and collects information from samples by asking questions through interviews or questionnaires to then explain various aspects of the population.

The population in this study consisted of all students at Madani Model Integrated Middle School and Palu 19 Public Middle School. The sampling technique, namely cluster sampling, is the sampling method used in this research. In cluster sampling, the population is divided into several groups or clusters, and one or more clusters are randomly selected as samples. In this research, data were collected through the distribution of questionnaires and documentation.

The instrument used is a Likert scale questionnaire, which consists of two parts: (1) Gadget use consists of 46 statement items, and empathy consists of 36 statement items, which were adopted from Eka Putri Aprillia's research (2020). Both instruments have been tested for validity and reliability using Pearson's product-moment correlation and Cronbach's alpha.

Table 1. Reliability Test Results

Variable	Number of Items	<i>Alpha Cronbach</i>
Use of Gadgets	46	0,914
Empathy	36	0,885

Data analysis was carried out in two stages, namely descriptive analysis and simple linear regression. Descriptive analysis is used to categorize students' use of gadgets and empathy as very high, high, low, or very low. Meanwhile, a simple linear regression analysis was used to determine whether gadget use affected student empathy. Data processing was carried out using SPSS version 26.

Before carrying out the regression test, the data were tested for several classic assumptions, namely normality, heteroscedasticity, and linearity. The normality test was carried out using the Kolmogorov–Smirnov test to ensure that the data were normally distributed, the heteroscedasticity test used the Glejser method to ensure that there were no symptoms of non-constant residual variance, and the linearity test was carried out to ensure that the relationship between the two variables was linear. The decision-making criteria are based on a p-value < 0.05, indicating a significant association between the independent variable (gadget use) and the dependent variable (empathy).

3. RESULTS AND DISCUSSION

3.1 RESULTS

a. Descriptive Research Results

1) Description of Gadget Usage Level

Table 2. Classification and Percentage of Gadget Use

Classification	Frequency (f)	Percentage (%)
Very High	15	7,30 %
High	160	78,00 %
Low	30	14,60 %
Very Low	0	0 %
Total	205	100 %

Based on the table above, it shows that out of 205 students, 15 or 7.31% of students use gadgets very high, 160 or 78.04% of students use gadgets high, 30 or 14.63% of students use gadgets low, and 0 or no students use gadgets very low.

2) Description of Empathy Level

Table 3. Classification and Percentage of Empathy

Classification	Frequency (f)	Percentage (%)
Very High	73	36,60 %
High	132	64,30 %
Low	0	0 %
Very Low	0	0 %
Total	205	100 %

Based on the table above, it shows that of the 205 students, 73 or 35.60% of students have very high empathy, 132 or 64.39% of students have high empathy, 0 or no students have low empathy, and 0 or no students have very low empathy.

b. Results of the Classical Assumption Test

1) Normality Test

The normality test was performed using the Kolmogorov-Smirnov method. The results showed a significance value of $0.200 > 0.05$, indicating that the data were normally distributed.

Table 4. Results of the Kolmogorov-Smirnov Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		205
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	9.59901262
Most Extreme Differences	Absolute	.055
	Positive	.046
	Negative	-.055
Test Statistic		.055
Asymp. Sig. (2-tailed)		.200 ^{c,d}

2) Heteroscedasticity Test

The heteroscedasticity test, conducted using the Glejser test, yielded a p-value of 0.772 (> 0.05), indicating no heteroscedasticity in the regression model. Thus, the model was deemed suitable for use.

Table 5. Heteroscedasticity Test Results

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	6.677	3.946		.092
	Gadget	.009	.031	.020	.772

a. Dependent Variable: ABS_RES

3) Linearity Test

The linearity test produces a Sig value. Deviation from linearity is $0.500 > 0.05$, indicating a linear relationship between gadget use and student empathy.

Table 6. Linearity Test Results

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Empati * Gadget	Between Groups	(Combined)	5926.760	52	113.976	1.228	.170
		Linearity	1235.617	1	1235.617	13.315	.000
		Deviation from Linearity	4691.142	51	91.983	.991	.500
	Within Groups		14105.631	152	92.800		
	Total		20032.390	204			

c. Simple Linear Regression Analysis

A simple linear regression analysis was used to determine the effect of gadget use on students' empathy. The test results can be seen in the following table:

Table 7. Simple Linear Regression Test Results

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	87.831	6.836		.000
	Gadget	.193	.053	.248	.000

a. Dependent Variable: Empati

The regression equation obtained is:

$$Y = 87,831 + 0,193X$$

The constant value of 87.831 indicates that when teacher social support is zero, the empathy level is 87.831. The regression coefficient of 0.193 indicates that a one-unit increase in gadget use will increase empathy by 0.193. The significance value ($0.000 < 0.05$) and the calculated t value (3.653) > t table value (1.971) indicate that gadget use has a positive and significant effect on student empathy. This means that the more gadgets students use, the greater their empathy.

3.2 DISCUSSION

This research finds that the use of gadgets has a positive and significant effect on the empathy of junior high school students in Palu City. This means that the more gadgets students use, the greater their empathy. This research aligns with Albert Bandura's theory, which emphasizes that humans learn not only through direct experience but also through observation, imitation, and social interaction. Here, gadgets serve as tools to introduce students to others' points of view through digital content such as social media, videos, and interactive simulations. Through this technique, children can view behavioral models from various angles without direct experience, thereby increasing their empathy and social understanding [20].

Gadgets allow students to access news, videos, and stories from around the world online. This helps them understand the experiences of others, such as disaster victims or minority groups. For example, through platforms such as YouTube, TikTok, or news applications, students can learn about social issues such as poverty or discrimination. Students can share personal experiences, provide emotional support, or participate in virtual charity campaigns, which build empathy by connecting with them emotionally [21].

This research is strengthened by Dyah Aryani's findings, which show that gadget addiction has a positive and significant impact on empathy among late adolescents at the Muhammadiyah University of Surakarta. Research findings show that addiction significantly and beneficially increases empathy in late adolescents at the Muhammadiyah University of Surakarta. Thus, it can be said that the empathy of late adolescents at the Muhammadiyah University of Surakarta is influenced by gadget addiction [22].

This research was also reinforced by Haqiqi, showing that the average percentage of psychology students from the class of 2020 experienced smartphone addiction at a rate of 57% during the COVID-19 pandemic. The empathic behavior of psychology students in the class of 2020 was low, with 75% of students reporting low levels during the COVID-19 pandemic. There is a positive association between smartphone addiction and empathy among psychology faculty students in the class of 2020 [23].

Gadgets can foster empathy by exposing people to news or visual content about a person or group experiencing a disaster, making it easier for them to feel and understand others' suffering from a distance. Technological developments, especially social media, allow people to see images, videos, or firsthand accounts from victims of accidents or natural disasters, which evoke feelings of empathy and a desire to help. This is in

accordance with research by Kurniaputri, who found that social media allows people to see real situations and conditions [24].

The above illustrates that gadgets function as a window into the real world, where one can visually see the suffering of others more effectively than through text-based news alone. This fosters empathy among people, as seen by large-scale online donations. Through narrative and emotional content, it raises social awareness.

The above statement is similar to research by Jasman, which shows that children's empathy is strongly influenced by gadget use, providing additional credibility to this study. When watching sad scenes in films, children usually become sad. They can empathize with the characters' feelings, even making some of them cry. Additionally, characters in movies, cartoons, and online games can influence people by inspiring them to be strong, helpful, or extraordinary [25].

Through educational access and virtual interactions that foster understanding of others' emotions, the use of gadgets has a positive impact on students' empathy. One is when students use social media, which can increase their empathy by reading stories and interacting with others casually. Platforms such as Instagram and TikTok allow students to engage with emotional narratives from diverse backgrounds, helping them understand other people's perspectives [26].

Students can show empathy and offer support when people share inspiring stories, firsthand experiences, and humanitarian videos about the hardships they are facing. As a result, they become more emotionally sensitive to nonverbal cues in the online environment and can thus respond appropriately to others' feelings. By frequently understanding these expressions, both cognitive and affective empathy abilities become more honed.

This research shows that the use of gadgets influences empathy, as other studies have found. This is indicated by the results of a simple linear regression analysis, with a significance value of 0.000 (< 0.05) and a calculated t value of 3.653, which is greater than the t table value of 1.971, indicating that the research hypothesis is accepted. Thus, the higher the use of gadgets, the higher the students' sense of empathy.

4. CONCLUSION

This study concluded that gadget use significantly impacts empathy among junior high school students in Palu City. The statistical results (t -value = 3.653, $p < 0.000$) confirmed that gadget use influences students' empathy, enabling them to feel and understand the suffering of others experiencing disaster through exposure to visual content on gadgets. This fosters empathy, as evidenced by large-scale online donations. Through emotional narratives and content, social awareness and empathy can be enhanced. Future research should expand to include multi-context samples and explore mediating variables, such as social interactions and behavioral development. For further research, it is recommended to use a longitudinal design or involve several schools with different characteristics to gain a more comprehensive understanding of individual cognitive and emotional development. Further research could also include other

variables, such as social media use or personality factors, to examine a more complete picture of how these factors interact to shape empathy. Thus, this study contributes to the general public by providing supervision for children who use gadgets, regulating their use to ensure they can still interact well and avoid apathy, thereby helping them maintain high social-emotional awareness and empathy.

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