

ETHICS OF GADGET USE AMONG ELEMENTARY SCHOOL STUDENTS: A REVIEW FROM THE PERSPECTIVE OF MORAL PHILOSOPHY

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ABSTRACT

The increase in gadget use among elementary school students is a phenomenon that is not only pedagogical and psychological in nature, but also has complex ethical implications. This article aims to examine the use of gadgets among elementary school children through a critical synthesis of various moral philosophy perspectives within the framework of technoethics, so that technology is not understood merely as a learning tool, but as an agent that shapes children's habits, social relationships, and value orientations. This study uses the Systematic Literature Review (SLR) method based on PRISMA standards on 22 scientific articles published in the last five years and sourced from Google Scholar, ScienceDirect, and SpringerLink databases. The analysis was conducted using a thematic approach to integrate empirical findings with the perspectives of deontological ethics, utilitarianism, virtue ethics, care ethics, discourse ethics, responsibility ethics, and family ethics. The results showed that unethical gadget use has the potential to reduce empathy, weaken social interaction, disrupt cognitive function, and hinder the formation of children's moral character. From a technological ethics perspective, these findings confirm that the effectiveness of educational technology cannot be separated from the moral responsibility of adults as technology controllers. This article concludes that the use of gadgets by elementary school students should be viewed as a moral practice that requires a normative and conceptual framework, not merely technical regulations, so that technology can contribute positively to the human and moral development of children.

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INTRODUCTION

The development of digital technology in the last decade has significantly transformed the way humans access information, communicate, and carry out daily activities. The speed of information dissemination through digital devices has made society increasingly dependent on technology, including in the realm of education and the social

life of elementary school children. People now consider digital activities to be more effective, efficient, and convenient than direct interactions in the real world (Herlambang and Abidin 2023). Today's social ethics are very different; technology has taken over the boundaries between individuals, causing ethics to become a thing of the past (Dinarti et al., 2024). The digital era has a different influence on the older generation and the working generation. The emergence of the digital era has both positive and negative impacts. For the older generation, the existence of the digital era can threaten their existence, but for the working-age population, the digital era is an opportunity (Pratama et al., 2024).

Technological advances have influenced the use of gadgets by everyone, including elementary school children, whose use of gadgets still requires parental supervision. Giving gadgets to children without supervision tends to have several negative effects, ranging from damaging their eyesight to causing mental disorders (Ahyati et al., 2024). The use of gadgets by elementary school children is increasing and has become an important phenomenon in contemporary education (e.g., smartphones, tablets, computers) due to increased digital access at a young age (Qi et al., 2023). Studies also show that the types of use (learning, entertainment, social) vary, and not all screen time is educational, which raises the risk that most gadget use is not for learning purposes (Wang et al., 2024).

In a social context, local research shows that excessive gadget use can affect the social and emotional development of elementary school children, causing them to become more reclusive and less interactive with their peers (Rini, et al. 2021). Psychological impacts have also been found, such as the social-emotional development of elementary school children being affected by gadget use, which can contribute to anxiety, attention disorders, or unhealthy social behavior (Khoerunnisa & Laeli, 2024).

From a moral philosophy perspective, the use of gadgets by elementary school children requires ethical analysis: aspects such as parental responsibility, educational obligations, fairness of access, and virtue in parenting must be considered so that gadget use does not harm children's moral and social development (Çaylan, et al. 2021; Selak, et al. 2025). Therefore, a systematic literature review that integrates the latest empirical findings (from the last 5 years) with a moral philosophy framework is needed to formulate practical ethical guidelines for elementary schools and parents.

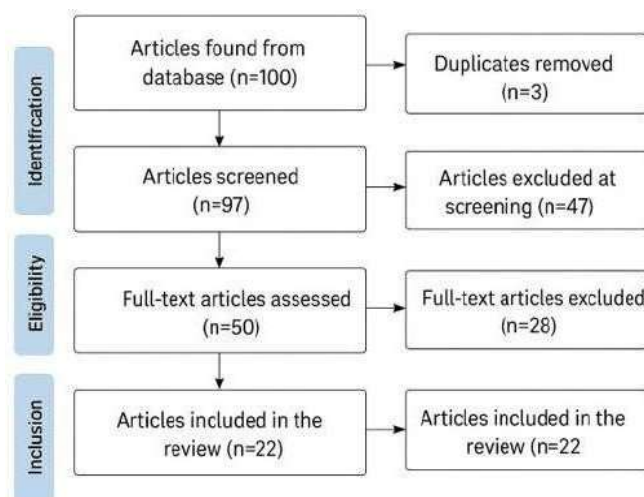
The integration of the latest empirical findings with a moral philosophy framework is necessary to provide a comprehensive understanding of gadget use among elementary school children. The literature from the last five years suggests that the use of technology needs to be directed towards healthy moral, social, and learning development, so that children do not only become passive users, but are able to develop digital literacy, self-regulation, and positive character (Martin & Zhao, 2021; Davis & O'Neil, 2022). Therefore, a systematic literature review that integrates empirical and ethical perspectives is needed in order to formulate practical guidelines for parents, educators, and elementary school institutions in managing the appropriate and responsible use of gadgets.

METHOD

This study used a Systematic Literature Review (SLR) approach that referred to PRISMA standards to ensure that the article search and selection process was conducted systematically and transparently. All data analyzed came from journal articles published in the last 5 years and available on reliable databases such as Google Scholar, ScienceDirect, and SpringerLink. The main focus of the search was research discussing the ethics of gadget use among elementary school students from the perspectives of education, digital behavior, and moral philosophy. Articles that met the relevance criteria were then analyzed using a thematic approach to examine trends in findings, the meaning of digital ethics, and the contribution of moral philosophy in shaping student behavior in gadget use.

The following is a PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flowchart. This diagram shows transparency in the screening of articles from start to finish so that only articles that are relevant and meet the criteria are used.

Figure 1. PRISMA Flowchart



Main Focus: *Deontological Ethics, Utilitarianism, Virtue Ethics, Family Ethics, and the Ethics of Responsibility.*

RESULT AND DISCUSSION

The following review table has been compiled to provide a brief overview of research related to the Ethics of Gadget Use among Elementary School Students: A Review from a Moral Philosophy Perspective. This table highlights the main focus and relevance of each article to the topic under review.

Table 1. Article Review Results

No	Article Title and Author	Article Summary	Results & Findings	Relevance to the Topic : Ethics of Gadget Use Among Elementary School Students: A Review From The Perspective Of Moral Philosophy
1	The Impact of Gadget Use on the Psychological Development of Elementary School Children – Purwaningtyas, Septiana, Aprilia & Candra (2023)	Reviews the influence of gadgets on the psychology of elementary school children	Children become easily irritated, emotionally unstable, and experience decreased focus.	Supports deontological ethics: excessive use violates the duty of self-care and self-regulation.
2	<i>The Impact of Gadget Use on Students' Moral Degradation</i> – Abidah (2023)	Examines the impact of gadget use on students' morality.	Decline in politeness, responsibility, and discipline.	Relevant to virtue ethics: moral virtues weaken without guidance.

3	<i>The Importance of Setting Limits on Children's Gadget Use – Rahmawati (2025)</i>	Highlights the urgency of limiting gadget use among children.	Limits help prevent behavioral and cognitive disturbances.	In line with utilitarianism: gadget use is ethical when benefits outweigh risks.
4	Digital Ethics of Care and Digital Citizenship – O'Reilly et al. (2024)	Digital Ethics of Care and Digital Citizenship – O'Reilly et al. (2024)	Parental guidance increases children's empathy and digital responsibility.	Supports ethics of care: lack of supervision equals failure to fulfill moral caregiving duties.
5	Governance and Duty in Global Refugee Education – Storen (2024)	Governance and Duty in Global Refugee Education – Storen (2024)	Governance and Duty in Global Refugee Education – Storen (2024)	Governance and Duty in Global Refugee Education – Storen (2024)
6	<i>The Impact of Gadgets on the Social Development of Elementary School Children – Safitri, Jannah & Mulyani (2025)</i>	Examines gadget effects on children's social interaction.	Reduced communication, declining empathy, and decreased face-to-face interaction	Supports utilitarianism: social harm outweighs benefits.
7	<i>Effects of Excessive Screen Time - Muppalla SK et al. (2023)</i>	Reviews the impact of screen time on children.	Sleep disorders, emotional and social problems, and impaired brain development.	Relevant to responsibility ethics: parents and teachers are obliged to minimize technological risks.
8	Students' Well-Being in Digital Learning – Berger et al. (2025)	Examines student well-being in digital learning environments.	Technology is beneficial when directed and supports quality learning.	Aligned with utilitarianism: gadget use is ethical when it improves children's well-being
9	<i>Technology and the Situationist Challenge to Virtue Ethics - Tollon (2024)</i>	Explores how technology can hinder moral virtues.	Reduces self-control and discipline in children.	Strongly supports virtue ethics: moral character weakens without guidance.
10	<i>The Impact of Gadgets on the Personality of Elementary School Students – Anugrah, Safrizal & Komalasari (2023)</i>	Examines the effect of gadgets on students' personalities.	Children become more individualistic and lack self-control.	Relevant to virtue ethics: gadgets weaken character formation.
11	<i>Parents' Media Mediation Roles - Çalhan & Göksu (2024)</i>	Examines parental mediation in digital media use.	Lack of supervision leads to addiction, impulsivity, and dysfunctional behavior.	Supports ethics of care and virtue ethics.
12	<i>Parental Guidance for Gadget Use - Chasanah & Pranoto (2023)</i>	Emphasizes the importance of parental guidance.	Children develop better self-control and avoid addiction.	Aligned with ethics of care: guidance is a moral obligation.

13	<i>Impact of Technology on Mental Health</i> - Masri-Zada et al. (2025)	Examines the impact of technology on mental health.	Increased anxiety, depression, and social isolation due to uncontrolled use.	Related to responsibility ethics: obligation to protect children's mental well-being.
14	<i>The Influence of Gadgets on the Emotional and Social Development of Elementary School Children</i> – Khoerunnisa & Laeli (2024)	Examines socio-emotional impacts of gadget use.	Children struggle to read facial expressions and lose empathy.	Relevant to discourse ethics: digital interaction cannot replace moral dialogue.
15	<i>Language of Hate & Digital Dialogue</i> - Hidalgo-Tenorio & Castro-Peña (2024)	Examines how digitalization affects the quality of human dialogue.	Digital communication tends to be shallow and lacks empathy.	Supports discourse ethics in the context of digital media use.
16	<i>Virtual Empathy</i> - Čekić (2025) –	Reviews empathy in digital interaction.	Direct empathy weakens due to dominance of virtual interaction.	Relevant to ethics of care and discourse ethics.
17	<i>Literature Review on the Impact of Gadgets on Cognitive Development</i> – Rahayu et al. (2023)	Reviews literature on cognitive impacts of gadget use.	Decreased focus, memory, and thinking ability..	In line with responsibility ethics: technology must protect child development.
18	<i>Online Safety & Critical Digital Citizenship</i> -Estellés & Doyle (2025)	Discusses digital safety in education	Children must be trained to use technology safely and ethically.	Relevant to moral responsibility in digital education.
19	<i>Children's Digital Literacy: Parental Role</i> - Pranawati, Maimunah & Susanto (2025)	Examines parental roles in children's digital literacy.	Improves safety, self-control, and healthy gadget use.	Supports family ethics and ethics of care.
20	<i>The Impact of Gadgets on Social-Emotional Interaction of Elementary School Children</i> – Andini et al. (2025)	Qualitative study of fifth-grade students.	Reduced family closeness and face-to-face interaction..	Relevant to family ethics: gadgets threaten the moral function of the family.
21	<i>Parental monitoring of early adolescent social technology use in the US: A mixed-method study</i> - Hernandez, Ben-Joseph, Reich & Charmaraman (2024)	Examines how parents monitor early adolescents' social technology use.	Lack of monitoring increases risky behavior, relationship problems, and reduced socio-emotional competence.	Highly relevant to ethics of care and family ethics: failure to monitor equals moral failure to protect children's well-being.
22	<i>Screen-Based Media and Young Children: Review and Recommendations</i> - Arumugam, Said & Nik Farid (2021) –	Reviews screen-based media impacts and parental recommendations.	Unsupervised screen time causes socio-emotional delays, language disorders, and reduced social interaction.	Relevant to responsibility ethics and virtue ethics: parents have a moral obligation to safeguard children's character and social capacity.

The following classification table was created to summarize several studies discussing the Ethics of Gadget Use

among Elementary School Students: A Review from a Moral Philosophy Perspective.
This table provides a brief overview of how each article relates to the topic.

Table 2. Article Classification

No	Main Theme	Number Of Articles	Percentage	Main Focus (Relevance to the Ethics of Gadget Use Among Elementary School Students: A Review From The Perspective Of Moral Philosophy)
1	Deontological Ethics (Duties and Rules)	4 articles	18%	Examines moral obligations to comply with gadget usage limits, protect oneself, and prevent violations of technology use regulations among children.
2	Utilitarian Ethics (Benefits vs. Harms)	4 articles	18%	Discusses ethical gadget use only when it produces greater benefits, particularly in relation to children's social and academic well-being.
3	Virtue Ethics (Children's Character and Morality)	5 articles	23%	Explains how gadgets influence character formation, including discipline, self-control, politeness, and moral responsibility.
4	Ethics of Care and Family Ethics (Guidance and Parenting)	6 articles	27%	Highlights parental and teacher guidance as a moral responsibility to safeguard children's emotional security and social relationships.
5	Responsibility Ethics (Hans Jonas) and Moral Discourse Ethics	3 articles	14%	Emphasizes long-term moral obligations to protect children's cognitive development, empathy, and the quality of communication in the digital era.

The development of digital technology in education requires an ethical framework that is not only abstract and normative, but also capable of responding to the nature of technology itself. In this context, technoethics emerges as an applied ethical approach that examines the reciprocal relationship between humans, moral values, and technology. Technoethics does not view technology as a neutral tool, but rather as an entity that has moral implications for the way humans think, act, and build social relationships (Hamdani, et al. 2024).

In primary education, the use of gadgets cannot be separated from ethical issues because primary school children do not yet have the full capacity to make moral judgments and exercise self-control independently. Therefore, technoethics emphasizes that technology must be placed within the framework of human-centered technology, namely technology that is controlled by human values, not the other way around. This principle affirms that the effectiveness of technology in learning cannot be separated from the moral responsibility of adults in regulating, accompanying, and limiting its use (Fu, Y., & Weng, Z 2024).

Technoethics also serves as a conceptual bridge between empirical findings and moral philosophy theory. Deontological, utilitarian, virtue ethics, ethics of care, discourse ethics, ethics of responsibility, and family ethics perspectives gain their applicable context when placed within the framework of technoethics. Thus, the use of gadgets by elementary school students is not only analyzed as a phenomenon of digital behavior, but as a moral

practice laden with values, power relations, and long-term consequences for the formation of children's character (Marín et al., 2024). First, the principle of deontological ethics, which emphasizes the obligation to obey the rules of gadget use,

finds strong relevance when linked to the finding that excessive gadget use in elementary school students has been proven to disrupt children's emotional stability, as prolonged screen exposure makes children more prone to anger and less able to control their feelings (Purwaningtyas et al., 2023). This emotional condition shows that violating the limits and rules of gadget use is not only a technical problem but also a moral violation of the obligation to take care of oneself (Abidah, 2023; Rahmawati, 2025). The ethics of care perspective in the results section also emphasizes that the failure of parents and teachers to supervise gadget use is not only a technical negligence but also a moral violation of the obligation to care for children's emotional needs (O'Reilly et al., 2024). Thus, moral obligations in deontological ethics are in line with children's need for emotional protection (Storen, 2024).

Second, the Utilitarian perspective, which evaluates actions based on the greatest benefit, is strongly linked to the finding that high intensity of gadget use among elementary school students has an impact on reducing face-to-face interaction with peers (Safitri et al., 2023). This condition shows that unguided gadget use results in greater social losses than benefits (Muppalla et al., 2023). The principle of utilitarianism provides a framework that the use of gadgets is only ethical if it truly improves children's welfare (Berger et al., 2025). This confirms that unguided gadget use can damage the basic moral value of healthy human relationships, so that restricting gadgets is a moral action to maximize children's social well-being (Muppalla et al., 2023).

Third, the concept of Virtue Ethics, which emphasizes character building, is reinforced by research data showing that long-term gadget use can affect the personality of elementary school students (Tollon, 2024) through decreased concentration in learning, increased individualistic tendencies, and weakened self-control (Anugrah et al., 2023). This condition confirms that unguided gadget use actually hinders the formation of moral character traits such as discipline, responsibility, and politeness (Çalhan et al., 2024). This is in line with the previous analysis that digital virtue can only grow through guidance (Chasanah & Pranoto, 2023). Dependence on digital devices also makes children less interested in collaborative activities (Muppalla et al., 2023), so that technology, which should be a means of character building, has the potential to weaken it (Masri-Zada T et al., 2025).

Fourth, from the perspective of Discourse Ethics, the use of gadgets is considered ethical only if it supports rational, honest, and mutually respectful communication. Children remain digitally connected but lose the opportunity to develop empathy and the ability to understand facial expressions (Khoerunnisa & Laeli, 2023). This shows that digital interactions cannot replace the quality of human relationships required in discourse ethics (Encarnación Hidalgo-Tenorio & Juan Luis Castro-Peña, 2024). This condition reaffirms the need to use gadgets for healthy and meaningful communication, rather than superficial communication that reduces empathy. (Čekić., 2025).

Fifth, the perspective of Responsibility Ethics (Hans Jonas) is closely related to the finding that the use of gadgets without a clear purpose can decrease important cognitive functions such as memory, focus, and critical thinking skills in elementary school students (Rahayu et al., 2023). Children's use of technology must consider the long-term consequences for their intellectual development (Muppalla et al., 2023). If gadgets are used only for passive entertainment, then such actions do not fulfill the principle of moral responsibility in the use of technology (Estellés & Doyle, 2025). Accustoming children to using gadgets as a learning tool is a moral responsibility (Pranawati et al., 2025).

Finally, the Family Ethics perspective is directly linked to the fact that children who are addicted to gadgets tend to reduce the intensity of communication with their families, thereby diminishing emotional closeness among family members (Andini, 2023). Gadget supervision is not only technical control, but also a moral action by the family to maintain emotional closeness and the continuity of family values (Hernandez et al., 2024). When children prefer screens to direct conversation, the moral function of the family as a space for character building is threatened (Arumugam et al., 2021). From the above discussion, it can be concluded that the use of gadgets in the family cannot be viewed merely as a technological activity, but is a moral issue directly related to the quality of relationships between

family members.

Based on a synthesis of various moral philosophical perspectives and empirical findings, the use of gadgets by elementary school students cannot be understood solely as a technical or pedagogical issue. From a technoethics perspective, gadgets not only function as learning aids but also as agents that shape children's habits, relationship patterns, and value orientations. The use of technology without ethical control has the potential to shift human relationships towards relationships dominated by technological mediation (Aydın, I. 2024).

A critical study based on technoethics shows that excessive use of gadgets can reduce children from moral subjects to objects of technological consumption. This condition hinders the development of virtues such as self-control, empathy, and responsibility, and confirms that moral character formation does not occur automatically through technology, but rather through consciously guided habits. Furthermore, the imbalance of control between children and technological systems that are more oriented towards economic interests than the moral development needs of children indicates moral negligence on the part of parents and educational institutions, as emphasized in the ethics of care and the ethics of responsibility (Marín et al., 2024).

From a discourse ethics perspective, the dominance of digital interactions also has the potential to weaken the quality of rational and empathetic human communication, as screen-based interactions limit children's ability to understand the expressions and emotions of others. Therefore, the use of gadgets by elementary school students must be understood as a moral practice that requires a framework of value regulation, not just screen time regulation. Without a clear ethical foundation, technology risks undermining children's moral development even though it appears functionally effective (Aydın, I. 2024).

In response to the various ethical issues identified, alternative solutions are needed that are not only technical, but also normative and conceptual (Marín et al., 2024). From a technoethics perspective, ethical solutions to the use of gadgets by elementary school students should be directed at strengthening the role of humans as controllers of technology, not the other way around. First, the use of gadgets needs to be based on the principle of adult moral control, where parents and teachers act as moral gatekeepers in determining the type, duration, and purpose of gadget use. Second, gadgets must have clear pedagogical objectives, so that their use is not merely for passive entertainment, but supports the learning process, cognitive development, and character building. Third, proportional technological restrictions are needed, whether through screen time rules, content selection, or active supervision, as a form of ethical responsibility for children's development. Fourth, the use of gadgets must be directed towards the internalization of moral virtues, such as discipline, responsibility, empathy, and reflective abilities. (Aydın, I. 2024).

CONCLUSION

A systematic review of twenty-two scientific articles published in the last five years shows that the use of gadgets by elementary school students is a multidimensional issue that encompasses psychological, social, cognitive, and, above all, moral aspects. A synthesis of various moral philosophical perspectives confirms that gadget use cannot be understood solely as a technical or pedagogical issue, but rather as an ethical practice that directly influences the formation of children's character and the quality of their human relationships.

Within the framework of technoethics, gadgets are understood not as neutral instruments, but as entities that help shape children's habits, value orientations, and social relationship structures. The use of technology without ethical control has the potential to reduce children from developing moral subjects to objects of consumption in a technology system oriented towards economic interests. Empirical findings show that this condition can hinder the development of moral virtues, such as self-control, empathy, responsibility, and reflective abilities, which are the foundations of basic education.

Various perspectives of moral philosophy reinforce these findings. Deontological ethics emphasizes the moral obligation of adults to protect children through rules and restrictions on gadget use, while utilitarianism demands a balance between the benefits and risks of technology. Virtue ethics, ethics of care, family ethics, discourse ethics,

and ethics of responsibility assert that character formation does not occur automatically through technology, but rather through conscious guidance, human communication, and consideration of long-term impacts. Therefore, ethical solutions to gadget use must be normative and conceptual, placing humans as the controllers of technology, so that gadgets function as a means of supporting children's moral development, not as a force that dominates them.

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