The Influence of Gadget Use on Early Childhood: Impacts and Strategies for Balanced Development

Azzah Shafa[1]; Hafidz[2]; Aulia Desti[3]; Kharisma Dikta[4]; Zahra Dian[5]; Aisyah Azzahra[6]; Nabila Sagita[7]; Kania Rahma[8]

Abstract

This study explores the influence of gadget use on early childhood development, emphasizing both its positive and negative impacts. With the rapid advancement of technology, gadgets have become integral to modern life, providing educational resources, communication tools, and entertainment. However, excessive and unsupervised gadget use among children poses significant risks, including social detachment, delayed cognitive and emotional development, and reduced physical activity. Using descriptive and quantitative methods combined with a literature study, this research aims to analyze the effects of gadget use on children's social, emotional, and cognitive growth. The study also examines parental roles in managing gadget exposure and offers strategies to mitigate its adverse effects. Findings reveal that while gadgets offer educational benefits and enhance access to information, overuse can lead to dependency and hinder the social development of children. Parental guidance, such as setting screen-time limits, encouraging interactive play, and fostering balanced gadget use, is critical to ensuring a positive developmental trajectory. This research underscores the importance of responsible technology integration to promote holistic growth in early childhood.

Keywords: *Gadgets; Early Childhood; Development; Parenting Strategies; Technology Integration.*

[1] Universitas Muhammadiyah Surakarta, Indonesia, Email: g000240187@student.ums.ac.id

[2] Universitas Muhammadiyah Surakarta, Indonesia, Email: haf682@ums.ac.id

[3] Universitas Muhammadiyah Surakarta, Indonesia, Email: g000240195@student.ums.ac.id

[4] Universitas Muhammadiyah Surakarta, Indonesia, Email: g000240177@student.ums.ac.id

[5]Universitas Muhammadiyah Surakarta, Indonesia, Email: 000240208@student.ums.ac.id

[6] Universitas Muhammadiyah Surakarta, Indonesia, Email: g000240199@student.ums.ac.id

[7] Universitas Muhammadiyah Surakarta, Indonesia, Email: g000240202@student.ums.ac.id

[8] Universitas Muhammadiyah Surakarta, Indonesia, Email: g000240173@student.ums.ac.id

Introduction

Advances in information and communication technology have brought great changes in human life. One of the tangible manifestations of this progress is the presence of various types of gadgets, namely electronic devices designed to support various daily activities[1]. Gadgets, such as smartphones, tablets, laptops, and wearable devices, are now not only used for communication needs, but also to support education, entertainment, work, and health management. Its presence has become an integral part of the modern lifestyle[2].

In recent years, gadgets have undergone a rapid evolution. This device not only functions as a communication tool, but also a means to quickly access information, manage productivity activities, and establish social connections through digital platforms[3]. For example, smartphones are now equipped with various smart applications that allow users to make banking transactions, take online classes, and monitor their health through special applications[4]. On the other hand, gadgets have also supported digital transformation in various sectors, such as education, healthcare, and business[5].

However, the increasingly widespread use of gadgets also brings a number of challenges. One of the main challenges is the emergence of excessive reliance on technology, which can negatively impact both physical and mental health. Some of the effects that often appear, including posture disorders due to prolonged use of gadgets, digital eye fatigue, to psychological problems such as stress and addiction[6]. In addition, the inappropriate use of gadgets can also reduce the quality of in-person social interactions, replacing face-to-face meetings with less personal virtual communication.

This context suggests that while gadgets offer many benefits, their unwise use can have a variety of negative consequences. Therefore, an in-depth study is needed to understand the role of gadgets in human life, both in terms of benefits and impacts. This study aims to analyze various aspects related to the use of gadgets, including their effects on productivity, social interaction, and physical and mental health.

Melalui kajian ini, diharapkan dapat ditemukan langkah-langkah strategis untuk memaksimalkan manfaat gadget sekaligus meminimalkan dampak negatifnya[7]. Hasil penelitian ini juga diharapkan dapat menjadi panduan bagi masyarakat dalam menggunakan gadget secara bijak, serta menjadi acuan bagi pembuat kebijakan dalam merancang regulasi yang relevan dengan era digital.

Method

This research uses descriptive and quantitative research methods as well as literature studies. This research was conducted to find out what the picture of the study material is being studied. The literature review conducted in this study seeks to inform readers of other research results that are closely related to the research conducted[8]. Descriptive research also does not test hypotheses or make predictions.

Descriptive research is used to (1) gather detailed information that explains what exists, (2) identify problems or examine prevailing conditions and practices, (3) make comparisons, (4) determine what others are doing in dealing with the same problem. Meanwhile, literature review is intended to summarize, analyze, and interpret concepts and theories related to a research project [1].

Result and Discussion

Definition of Gadget

The discussion in the research article explains the results obtained from the research. The author compiles, analyzes, evaluates, interprets, and compares the results of his research with findings from existing studies (at least 5 references)[9]. Avoid repeating sentences from the introduction, discussion, and conclusion. The number of discussion paragraphs should be longer than the introduction. The consistency of the article from the title to the discussion must be considered.

Gadgets are electronic media devices with various functions. Nowadays, devices have become an integral part of human life, even in their own lifestyles. There are quite a lot of types of devices available today, some of which are cell phones, smartphones, desktops (PCs), tablets, laptops/netbook PCs, and tablets. People are already very familiar with the benefits and functions of each of these devices, such as making calls, processing data, accessing the internet, recording images, recording videos, recording sounds, playing music, and so on. Tools are now becoming very important for telecommunications[10]. More than 50% of people in many countries use these devices, and the market is growing rapidly. As many as 6.9 billion people used devices in 2014 (WHO, 2014). In 2013, the Ministry of Communication and Information of the Republic of Indonesia reported that the number of mobile phones (HP) in Indonesia was 240 million units sold. The distributed tools have exceeded Indonesia's population, which stands at 237 million people, according to the 2010 census. The use of electronic devices or smartphones has also increased as a result of the rapid growth of internet networks. With fast data transfer capabilities, the 4G Long Term

Evolution (LTE) network allows smartphone users to access the internet easily [2].

The fourth largest smartphone user in the world is Indonesia, followed by China, India, and the United States [3]. Nowadays, gadgets are very popular as technology, and both adults and children use them. Where many electronic products target children, children are now active consumers.

Definition of Early Childhood

The definition of early childhood education is a role or guidance by the educator in order to form a personality that is the main for physical and spiritual development. Early childhood is also a group of human beings aged 0-6 years.As stipulated in the Sisdnikas Law of 2003 article 1 paragraph 14, the definition of early childhood education is the provision of educational stimuli or coaching aimed at children from birth to the age of six years to help physical and spiritual growth and development so that children are ready to enter higher education [4].

According to NAEYC (National Association of Education For Young), the definition of early childhood is a group of individuals who are between the ages of 0-8 years. Early childhood is also a group of humans in the process of growth and development. At that age, early childhood is also called by experts as the Golden Age, which at that age can only occur once in a lifetime[11]. Early childhood development also needs to be directed at a balanced physical, cognitive, socio-emotional, language, and creativity as the basis for laying a more complete developmental development [5].

The definition of early childhood also has various age limits and understandings and depends on the thinking or viewpoint used. According to the traditional understanding of children, children are often identified as miniature humans who are still innocent and have not understood and understood anything[12]. According to another understanding of early childhood, children are also young children and have a lot of potential that still needs to be developed. Early childhood also begins after babies are many and full of dependence, which is about 2 years old until the time when the child is sexually mature and also has certain kinds or characteristics that are not typical or not the same as adults and they will develop into full adult humans [6].

Benefits of Gadgets in the Current Era

In this digital era, gadgets such as smartphones, tablets, and laptops have become an integral part of daily life. The benefits of gadgets can be felt in various aspects of life, from accelerating access to information to increasing productivity. With various features and applications that continue to develop, gadgets are able to meet increasingly complex human needs in facing modern challenges.

Therefore, understanding the benefits of gadgets is important to support a more efficient and productive life.

The rapid development of technology has made gadgets not only a means of communication, but also a means of studying, working, entertaining, and monitoring health. Wise use of gadgets can provide significant benefits in improving the quality of life. However, it is important for users to understand the benefits of gadgets optimally so that they can minimize the negative impact that may occur due to excessive or improper use. Some Benefits of Using Gadgets

1. Simplify Communication Gadgets allow for easy long-distance communication via phone, instant messaging, and video conferencing apps.

2. Learning and Education Facilities With gadgets, access to information and educational materials has become easier through the internet and e-learning applications.

3. Increasing Productivity Gadgets support work activities with various features such as schedule management, document processing, and quick access to data.

4. Gadget Entertainment Facilities provides a variety of entertainment applications such as games, video streaming, music, and social media that help reduce stress.

5. Health Monitoring Smartwatches and health apps help users monitor body conditions, such as heart rate, sleep patterns, and daily activities.

6. Supporting Mobility Gadgets such as smartphones and laptops allow people to stay connected and productive on the go.

Negative Impact of Gadgets

- Wasting time in vain. Children usually forget time and forget themselves, even they are not sensitive to the people around them when they are engrossed in playing gadgets. In fact, childhood is a productive time to do positive and useful things.

- Using gadgets for too long will interfere with brain development and health. This can also cause disturbances or delays in speaking ability (for toddlers), as well as hinder the child's ability to express the content of his thoughts.

- The number of applications that turn out to be inappropriate for the age of the child, and is exacerbated by the lack of norms, ethics, education and

religious values on sites and applications that can cause children to behave badly and badly and even deviantly.

- The more often children use gadgets with eye conditions and mobile phone screens and the like with a distance that is too close and lying down, it will interfere with eye health. In addition, the use of gadgets without parental supervision will reduce children's interest in reading because they are used to pictorial and moving objects.

- Apps and games that they think are fun and exciting, then they will start to leave their social activities such as playing with friends, playing with their parents, their concern for their surroundings will begin to disappear as if they don't care.

Solutions to Overcome Gadget Addiction in Elementary School Children

Parents have a very important role in controlling children's addiction to gadgets. The first step parents must take is to avoid using gadgets in front of children so that children are not affected. If outside influences persist even though parents have done this, the next step is to accompany the child when using gadgets. By accompanying, parents can minimize the negative impact of gadgets on children.

Some steps that can be implemented to reduce gadget addiction in children include:

1. Limit Gadget Use Time Setting limits on gadget play time can reduce children's addiction. However, this is not an easy thing because parents must have good communication and firmness so that children can understand the importance of reducing time playing gadgets.

2. Giving Educational Toys Giving toys that are educational can reduce gadget play time and even eliminate addiction. Children will be more interested in playing with educational and fun toys, which can also stimulate their cognitive development.

3. Inviting Children to Play With Parents often provide gadgets as children's playmates, but this method can cause dependence. Children, especially young ones, need parental assistance while playing. Inviting children to play together, both inside and outside the home, can make children forget about gadgets and focus more on useful physical activities.

4. If children find it difficult to separate from gadgets, parents can try to give toys that are similar to gadgets but do not have negative effects, such as

radiation that can damage brain development. Toys like this can help stimulate children's brain development without health risks.

All of these steps should be done with parental assistance to ensure that children stay on a healthy track and avoid the negative impact of excessive gadget use.

Early Childhood Signs of Gadget Addiction

According to Kwan, device addiction is defined as maladaptive behavior with signs such as using devices beyond their reasonable limits, having difficulty controlling themselves, and affecting daily routines[13]. According to Wijayanti, there are several signs shown by children who are addicted to electronic devices: playing electronic devices for more than an hour every day, being very obsessed with the device, being angry and even crying when not allowed to play, disturbing their sleep time, not interested in playing with their peers, difficulty focusing while studying, and interfering with daily activities [7].

There are several signs or symptoms shown by children who are addicted to electronic devices, namely: they enjoy playing with the device and lose track of time; they are restless when they are not playing; they fail to reduce or stop playing the device; they become less interested in the outside world; they continue to play the device even though they know it has a negative effect; and they continue to play the device even though they know it has a negative effect [8].

The Influence of Gadget Use

Addiction will occur in students who use electronic devices frequently; This includes addiction to the applications present on the device, which come from games, social networks, the internet, and other applications that are often used by students. Students will fail in this regard[14]. However, these devices can be used as educational tools to improve student achievement if they can be used properly. Therefore, parents and teachers should monitor the use of gadgets and limit the right time to use them[15]. Parents and teachers can provide gadgets to students according to their needs, such as when they have difficulties while learning or lack understanding of the material being studied.

Dependency reduces students' enthusiasm for learning, lowers their concentration, and lowers their achievement rate. In addition, the average PS of 60.98 and SA of 56.01 showed a decrease. As shown in the table above, the analysis of six studies showed an average increase of 39.28%. which means that the use of the device has an impact on student performance. If students use electronic devices in a way that suits their needs and are used as a learning tool

to seek information about education, their achievement levels can be improved, which will have a positive impact [9].

During lessons, students often use devices to access the internet, send SMS, even to play games, and access social networks such as Facebook and Twitter. When activities at home are carried out, most people use electronic devices. In addition, some adolescents have begun to be affected by the device, which has a negative impact on social behavior, especially in the family [10].

Children will experience the negative effects of excessive use of electronic devices. Children who spend their time with electronic devices will be more emotional and rebellious. This is because they feel disturbed while playing games. Lazy to do daily tasks[16]. Because he likes to use the device, even for food he has to be bribed. It is even more worrisome if they start not looking right or left or paying attention to the people around them; They didn't even want to talk to the elders.

Excessive use of electronic devices in children can have a negative impact because it can reduce their ability to concentrate and increase their dependence on electronic devices to perform tasks that they should be able to complete on their own [11].

Gadget Use and Social Development of School Children

The use of gadgets in children can have both positive and negative impacts. The positive impact includes increasing knowledge, developing creativity, facilitating communication, and expanding the circle of friends. Gadgets also support children's daily activities, especially in the search for information for schoolwork or as entertainment. However, the negative impact includes dependence on gadgets that can hinder children's social interaction with their environment. Excessive use of gadgets can cause health problems such as visual impairment, make children less physically active, and tend to be more interested in playing gadgets than interacting with peers.

According to Iswanto and Onibala, children who often use gadgets tend to ignore their environment and prefer to play with gadgets rather than playing with friends around the house. In addition, increasingly widespread internet access through gadgets often introduces children to age-inappropriate content, thus disrupting their learning process[17]. Another impact is the increase in selfishness and individualism in children who are addicted to gadgets, as mentioned by Adek Diah Saputri, who underlined that gadget addiction can hinder children's brain development due to playing games too often.

The importance of the role of parents in monitoring and controlling the use of children's gadgets is highly emphasized. According to Setianingsih et al.,

families can set limits on time spent playing gadgets, invite children to play outside, and encourage activities such as sports or playing music to reduce dependence. In addition, Fadilah advised parents to accompany their children, make agreements regarding the time and features used, and be a good example. At school, teachers also play the role of educators who help children understand the limitations of using gadgets. Teachers need to adapt the approach to the characteristics of children to support the formation of positive habits.

Conclusion

Technology that develops in the modern era has a profound influence on human mindsets. One form of evidence of development in the current era is the creation of gadgets that have benefits for humans. However, this gadget has a very rapid influence on early childhood mindsets. Gadgets have a positive impact and also a negative impact. Therefore, every child who is still early must always be under parental supervision in using it.

In this day and age, gadgets are needed, because all activities always use gadgets. Every child who has signs of addiction to gadgets should always be on the lookout. Technological developments are not only watched out for by early childhood, but from all ages must be able to make the best use of technological developments

Author Contributions

Azzah Shafa, Aulia Desti, Kharisma Dikta, Zahra Dian: Conceptualization, Methodology, Writing – review & editing, Supervision, Project administration. **Aisyah Azzahra**: Methodology, Writing – review & editing, Investigation **Nabila Sagita, Kania Rahma**: Conceptualization, Methodology, Writing – review & editing, Investigation.

Acknowledgment

Conflict of Interest

The authors declare no conflicts of interest.

Funding

Bibliography

[1]   H. Hafidz, "KONSEP PENDIDIKAN KELUARGA DALAM PEMIKIRAN MUHAMMAD THALIB," *Turots J. Pendidik. Islam*, vol. 1, no. 2, pp. 170–196, Dec. 2019, doi: 10.51468/jpi.v1i2.14.

[2]   Hafidz and Auliya Putri, "Penerapan Pola Asuh Parenting Style dalam Membina Moral Remaja (Studi Kasus Panti Asuhan Tirtonugroho Tirtomoyo)," *J. Ilmu Pendidik. dan Sains Islam Interdisip.*, pp. 13–22, Aug. 2022, doi: 10.59944/jipsi.v1i1.6.

[3]   H. Hafidz, R. Kurnia Ahmad, and A. Vivi Santika, "Pendidikan Keluarga Menurut Islam," *Turots J. Pendidik. Islam*, vol. 1, no. 1, Jun. 2019, doi: 10.51468/jpi.v1i1.3.

[4]   Hafidz, N. L. Inayati, and H. Nashihin, "Islamic Educational Strategies in Minimizing the Negative Impact of Polygamy on Family Mental Health : A Study in Glondong," *Edukasi Islam. J. Pendidik. Islam*, no. November, pp. 789–796, 2023, doi: 10.30868/ei.v12i04.6987.

[5]   H. Hafidz, Faizatul Maslahah, Nurul Latifatul Inayati, and M. C. A. Wafa, "Implementation of Behaviorism Theory in the Formation of Positive Behavior at Muhammadiyah 1 Middle School Kartasura," *J. Ilmu Pendidik. dan Sains Islam Interdisip.*, Dec. 2023, doi: 10.59944/jipsi.v2i4.105.

[6]   J. Aozora Tawazun, K. Fathiyyah, and K. Anam, "Understanding the Meaning of Liberalism from the Maudhu'i Interpretation Perspective in the Qur'an," *Bull. Islam. Res.*, vol. 1, no. 4, pp. 161–174, Jun. 2023, doi: 10.69526/bir.v1i4.48.

[7]   B. Nasrul Hoir, "Thematic Tafsir Study: Religious Moderation in the Qur'an," *Bull. Islam. Res.*, vol. 1, no. 4, pp. 47–62, Dec. 2023, doi: 10.69526/bir.v1i4.4.

[8]   L. Z. Muktashim, A. N. An, and S. Suri, "Tinjauan Majas Isti ' arah (Metafora) Terhadap Kata Qiradatan (Kera) Dalam Kitab Tafsir Kontemporer (Studi Kasus Ashabus Sabat Dalam Tafsir Quraish Shihab Dan Tafsir Wahbah Zuhaili)," *AL-AFKAR J. Islam. Stud.*, vol. 7, no. 2, pp. 994–1014, 2024, doi: 10.31943/afkarjournal.v7i2.1036.Majaz.

[9]   A. N. Fadhilah and A. Nirwana, "The Role of Prayer in Seeking Mercy and Guidance: Lessons from the Tafsir of Surah al-Fatihah," *Maʿālim al-Qurʾān wa al-Sunnah*, vol. 19, no. 2, pp. 292–298, Dec. 2023, doi:

10.33102/jmqs.v19i2.434.

[10] M. Faisal Purnomosidi, A. Nirwana AN, and Q. Butlam, "THE APPLICATION OF THE PRINCIPLE OF COHERENCE IN AL-HASHR: PERSPECTIVE OF QAWAID TAFSIR BY KHOLID BIN UTSMAN AL-SABT," *Profetika J. Stud. Islam*, vol. 25, no. 01, pp. 15–32, Feb. 2024, doi: 10.23917/profetika.v25i01.2500.

[11] W. Faaqih, A. Akram, and A. N. AN, "Study of Marriage Verses in Wahbah Zuhaili ' s Tafsir Al Munir," *AL-AFKAR J. Islam. Stud.*, vol. 7, no. 2, pp. 675–697, 2024, doi: 10.31943/afkarjournal.v7i2.968.Abstract.

[12] A. Majid and A. N. An, "Studi Tafsir Ibnu Katsir atas Nilai-Nilai Kesabaran pada," *AL-AFKAR J. Islam. Stud.*, vol. 7, no. 2, pp. 376–384, 2024, doi: 10.31943/afkarjournal.v7i2.952..Study.

[13] U. Abdurrahman, A. N. An, A. Rhain, A. Azizah, Y. Dahliana, and A. Nurrohim, "Perdebatan Kategori Ayat Dakwah Qs . Ali Imran Ayat 64 Antara Buya Hamka Dan Mufassir Nusantara," *al-Afkar J. Islam. Stud.*, vol. 7, no. 1, pp. 189–206, 2024, doi: 10.31943/afkarjournal.v7i1.927.Debate.

[14] J. H. Anshara, A. Nurrohim, and A. N. AN, "Pendekatan Penafsiran Kontemporer Dalam Analisis Budaya Populer," *AL-AFKAR J. Islam. Stud.*, vol. 7, no. 4, pp. 130–147, 2024, doi: 10.31943/afkarjournal.v7i4.1658.Contemporary.

[15] F. Aliyatul, Y. Dahliana, A. Nirwana, A. Azizah, and U. M. Surakarta, "STUDI KITAB TAFSIR TANWIR AL-MIQBAS MIN TAFSIR IBNI ' ABBAS OLEH AL-FAIRUZABADI," *Subst. J. Ilmu-Ilmu Ushuluddin*, vol. 26, no. 1, pp. 15–25, 2024, doi: 10.22373/substantia.v26i1.22695.

[16] A. A. Zahra, Y. Dahliana, and A. N. AN, "Sha'rawi's Perception of Economic Solutions for Home Women in QS Al-Ahzab Verse 33 with Tahlili Approach," *al-Afkar, J. Islam. Stud.*, vol. 7, no. 1, pp. 79–87, 2024, doi: 10.31943/afkarjournal.v7i1.905.Abstract.

[17] I. A. Cahyono, A. Azizah, and A. N. An, "Resilience to Calamity in Qur ' anic Perspective," *AL-AFKAR J. Islam. Stud.*, vol. 7, no. 2, pp. 975–993, 2024, doi: 10.31943/afkarjournal.v7i2.1035.Abstract.

[18] Ahmad, A. (. (n.d.).). PENGARUH PENGGUNAAN GADGET TERHADAP PERILAKU REMAJA DALAM KELUARGA.

[19] Aini, R. ((2021)). Pengaruh Penggunaan Gadget terhadap Kehidupan Sehari-hari.

[20] Akbar, M. S. ((2022). Pengaruh penggunaan gadget dalam kegiatan belajar

dan mengajar terhadap pembentukan karakter anak generasi Z. . Jurnal Pendidikan Dasar dan Sosial Humaniora, 375-384.

[21] Ariston, Y. &. ((2018).). Dampak penggunaan gadget bagi perkembangan sosial anak sekolah dasar. . Journal of Educational Review and Research,, 1(2), 86-91.

[22] Chusna, P. A.-M. ((n.d.). .). PENGARUH MEDIA GADGET PADA PERKEMBANGAN KARAKTER ANAK.

[23] Imron, R. ((2018)). Hubungan penggunaan gadget dengan perkembangan sosial dan emosional anak prasekolah di Kabupaten Lampung Selatan. Jurnal Ilmiah Keperawatan Sai Betik,, 13(2), 148-154.

[24] K., Y. (t.thn.). sebagai Model Pendidikan Karakter Disiplin Anak Generasi Z dalam Keluarga Kristen di Era New Normal Pandemi. 5-13 .

[25] K., Y. (t.thn.). sebagai Model Pendidikan Karakter Disiplin Anak . Aplikasi Ibrani, :5-13 .

[26] Kadar Manik, D. &. (2022). PERAN ORANG TUA DALAM MENANGGULANGI KECANDUAN GADGET PADA ANAK DIMASA PANDEMI COVID 19. 220.

[27] Kurniawati, D. ((2020). PENGARUH PENGGUNAAN GADGET TERHADAP PRESTASI SISWA. Jurnal Ilmu Pendidikan,, 2(1).

[28] Nasution, M. A. ((2019).). Manfaat dan Risiko Gadget bagi Generasi Muda.

[29] Novitasari, W. &. ((2016)). Dampak penggunaan gadget terhadap interaksi sosial anak usia 5-6 tahun. Jurnal PAUD Teratai,, 5(3), 182-186.

[30] Priyanto, A. (2014.). PENGEMBANGAN KREATIVITAS PADA ANAK USIA DINI MELALUI AKTIVITAS BERMAIN.

[31] Rahmalah, P. Z. (. 2019.). Pengaruh Penggunaan Gadget Terhadap Pembentukan Karakter Anak Usia Dini".

[32] Saputra, A. (2018.). Pendidikan Anak Pada Usia Dini. JURNAL ILMIAH PRODI PENDIDIKAN AGAMA ISLAM, 192–209.

[33] Supriyadi, T. ((2020).). Teknologi dan Kehidupan Modern.

Copyright