

## Parenting in the Age of Artificial Intelligence and Smart Devices Usage in Nigeria

<sup>1</sup>John M. Agomoh,

<sup>2</sup>Ayuk O. Clara &

<sup>3</sup>Eze Ifeoma L.

<sup>1</sup>Department of Sociology,  
Kingsley Ozumba Mbadiwe  
University, Ideato

<sup>2&3</sup>Enugu State University of  
Science and Technology Agbani,  
Enugu.

Article DOI:

10.48028/iiprds/ijstreth.v12.i2.16

### Keywords:

Parenting, Artificial  
intelligence, Smart  
devices, Digital  
parenting

### Abstract

In the digital age, parenting practices are increasingly shaped by the integration of artificial intelligence (AI) and smart devices. This study explores the evolving landscape of digital parenting in Nigeria, a nation experiencing rapid digital growth amidst diverse socio-economic conditions. While AI tools and smart devices offer Nigerian parents enhanced opportunities for education, safety, and engagement, they also introduce new challenges, including data privacy risks, over-reliance on technology, developmental concerns, and access inequalities. Through a content review of literatures through qualitative design, this research investigates the extent of AI adoption, perceived benefits and drawbacks, impacts on children's behavior and learning, and the strategies Nigerian parents use to manage their children's digital engagement. Findings reveal that digital habits among Nigerian children are closely linked to those of their parents, also while urban families increasingly utilize AI for educational and caregiving support, disparities in digital literacy and infrastructure limit equitable access across regions, the study has also shown that the integration of AI and smart devices in parenting contributes to more informed, efficient, and responsive caregiving. while AI can support routine parenting tasks it cannot substitute for emotional bonding and guidance. The study highlights the need for culturally sensitive digital literacy programs and policy frameworks to ensure responsible, inclusive, and developmentally appropriate digital parenting in Nigeria.

Corresponding Author:

John M. Agomoh

## Background to the Study

In the 21st century, parenting has evolved from traditional, hands-on methods to more dynamic, technology-influenced approaches. One of the most significant transformations is the integration of artificial intelligence (AI) and smart devices into everyday parenting practices. Globally, the use of these technologies has reshaped how children learn, communicate, and interact with the world. In Nigeria, a country with a rapidly growing digital population and increasing access to internet-enabled devices, this transformation is particularly evident.

*Smartphones, tablets, AI-powered educational tools, voice assistants like Google Assistant and Alexa, and surveillance technologies have become part of many urban Nigerian households. These tools offer parents convenience in monitoring, educating, and entertaining their children. However, they also introduce complex challenges that were previously non-existent. Nigerian parents today must contend with concerns such as excessive screen time, digital addiction, privacy issues, exposure to harmful online content, and the need to balance virtual experiences with real-life socialization.*

While AI and smart devices can enhance learning and facilitate better parenting in some contexts, their unregulated use raises questions about their impact on child development and family dynamics. For example, reliance on AI to answer children's questions may limit critical thinking and interpersonal communication, while excessive use of tablets for entertainment can reduce physical activity and affect social skills.

Furthermore, Nigeria's socio-economic disparities mean that access to these technologies and knowledge of how to use them effectively is not evenly distributed. While tech-savvy, urban-based parents may use AI to improve their parenting strategies, others, particularly in rural areas, may lack access or digital literacy, widening the parenting gap. Despite the growing relevance of digital tools in parenting, there is limited empirical research that focuses on how Nigerian parents are adapting to these changes. Most global studies focus on Western contexts, often ignoring the unique cultural, economic, and infrastructural factors influencing parenting in Nigeria. This study seeks to bridge that gap by exploring the experiences, perceptions, and strategies of Nigerian parents navigating the challenges and opportunities presented by AI and smart devices in raising their children.

## Problem Statement

The rapid adoption of artificial intelligence and smart devices in Nigerian households is reshaping the traditional parenting landscape. While these technologies present opportunities for improved education, safety, and convenience in child-rearing, they also pose significant challenges many of which Nigerian parents are ill-equipped to handle. Issues such as overdependence on screens, cyberbullying, online privacy concerns, and digital literacy gaps are increasingly affecting children's development and family relationships.

Moreover, the socio-cultural and economic diversity in Nigeria creates disparities in how these technologies are accessed and used. Some parents embrace digital tools with

enthusiasm, while others struggle with affordability, awareness, and appropriate usage. Despite the rising relevance of digital parenting, there is a notable lack of context-specific research that examines how Nigerian parents perceive, utilize, and regulate AI and smart device usage in their homes. The absence of such research hinders the development of effective policies, digital literacy programs, and support systems tailored to Nigerian families. This study, therefore, addresses a critical gap in understanding how AI and smart device usage is impacting parenting in Nigeria, with a focus on identifying both the benefits and potential risks, as well as recommending strategies for effective digital parenting in the Nigerian context. From the foregoing, the paper examines;

1. The extent of AI and smart device usage among Nigerian parents and children.
2. The perceived benefits and challenges of integrating AI and smart devices into parenting practices.
3. The impact of digital parenting on children's behavior, education, and social interactions.
4. The strategies employed by Nigerian parents to manage their children's digital engagement

## **Literature Review**

### **Concept of Parenting**

Parenting refers to the process of raising and nurturing children in a way that promotes their physical, emotional, social, and intellectual development. It involves not only the provision of basic needs such as food, shelter, and safety, but also emotional support, moral guidance, discipline, and the transmission of cultural and social values. Parenting styles and practices are influenced by a range of factors including culture, socio-economic status, education, and personal experiences (Bornstein, 2019).

Parenting can be categorized into various styles, such as authoritative, authoritarian, permissive, and uninvolved, each of which impacts child outcomes differently. For instance, authoritative parenting, which balances warmth with appropriate control, is widely associated with positive outcomes such as high self-esteem, academic success, and social competence in children (Baumrind, 1967). In contrast, authoritarian parenting, characterized by strict rules and low responsiveness, may lead to anxiety and lower self-confidence in children. In today's digital age, parenting has expanded beyond traditional roles to include digital parenting, where parents must navigate challenges related to children's screen time, online safety, and technology use. This shift requires new skills and strategies to ensure that children grow up as responsible and resilient digital citizens (Livingstone & Blum-Ross, 2020).

### **Digital Parenting**

Digital parenting refers to the strategies, practices, and attitudes that parents adopt to manage and guide their children's use of digital technologies such as smartphones, tablets, computers, and the internet. As children grow up in increasingly connected environments, digital parenting has become a crucial aspect of modern caregiving, involving efforts to balance the benefits of digital tools with potential risks like screen addiction, cyberbullying, and exposure to inappropriate content (Livingstone & Blum-Ross, 2020).

Key components of digital parenting include setting screen time limits, using parental control apps, co-viewing content, monitoring online activities, and fostering open communication about digital experiences. The goal is to promote healthy, responsible, and safe engagement with technology. Research highlights that effective digital parenting is often characterized by a blend of supportive guidance and consistent rules, enabling children to develop digital literacy while maintaining emotional well-being (Khurana, 2015). Digital parenting practices can vary significantly across socio-economic and cultural contexts. For instance, in countries like Nigeria, digital parenting is influenced by access to technology, digital literacy levels of parents, and infrastructural challenges. This underscores the importance of context-sensitive approaches to understanding and supporting families in the digital age (Okoye&Nwankwo, 2023).

### **Artificial Intelligence (AI)**

Artificial Intelligence (AI) refers to the simulation of human intelligence processes by machines, particularly computer systems. These processes include learning (the acquisition of information and rules for using it), reasoning (using rules to reach approximate or definite conclusions), and self-correction (Russell &Norvig, 2021). In practice, AI encompasses a range of technologies including machine learning, natural language processing, robotics, and computer vision. The field of AI was formally founded in 1956 at the Dartmouth Conference, where pioneers like John McCarthy and Marvin Minsky envisioned machines that could mimic aspects of human thought (McCarthy et al., 1955). Early AI research focused on symbolic reasoning and rule-based systems, but progress was slow due to limitations in computing power and data. The 21st century has witnessed a resurgence of AI, driven by big data, faster processors, and improved algorithms—especially in the domain of machine learning, where systems learn patterns from large datasets rather than being explicitly programmed (LeCun, Bengio, & Hinton, 2015). AI applications now power technologies like voice assistants (e.g., Siri, Alexa), recommendation engines (e.g., Netflix, Amazon), autonomous vehicles, and predictive analytics in healthcare and finance. In Africa, AI adoption is growing in areas such as agriculture, education, and financial services, though challenges remain in infrastructure, data availability, and skilled labor (Ndubuisi&Oguamanam, 2021). For Nigeria specifically, AI has the potential to support sectors like health, education, and governance, but must be guided by inclusive policies and ethical frameworks sensitive to local contexts.

### **Smart Phones**

Smart devices are electronic gadgets that connect to other devices or networks via wireless protocols such as Bluetooth, Wi-Fi, or cellular networks. These devices can collect, process, and exchange data with minimal human intervention, making them part of the broader Internet of Things (IoT) ecosystem. Common examples include smartphones, smartwatches, smart TVs, and home assistants like Amazon Echo or Google Nest. They enhance user experience by automating tasks, providing remote control features, and offering personalized functionalities based on user preferences and behavior.

### **AI and smart device usage among Nigerian parents and children**

The increasing integration of artificial intelligence (AI) and smart devices into Nigerian households has significantly altered traditional parenting and child development practices. With rising digital connectivity across the country, both parents and children are becoming more reliant on these technologies for education, communication, and entertainment. Recent research shows that digital habits among Nigerian children are closely linked to those of their parents. A study by Kaspersky (2024) found that 93% of Nigerian adults and 69% of children spend at least three hours daily on digital devices, with over half of both groups often using devices at the same time. This correlation suggests that parental screen habits are directly influencing children's media consumption patterns (Kaspersky, 2024).

AI-powered educational tools are also gaining ground in Nigeria, particularly in early childhood education. A study in Anambra State revealed that children who used AI-based learning apps and interactive games demonstrated improved cognitive abilities in areas such as memory, problem-solving, and language skills. However, the study emphasized that these benefits were maximized only when the technology was used in tandem with teacher or parental guidance (Okoye&Nwankwo, 2023). Despite the benefits, many Nigerian parents lack adequate digital literacy, which affects their ability to guide their children's interactions with AI and smart devices. A study in Zambia with comparable socio-cultural contexts noted that many parents, especially in low-income communities, struggle with access to technology and understanding AI functionalities. This knowledge gap often leads to unsupervised or ineffective use of digital tools by children (Mulenga, 2022).

Conflicts related to device usage are also common. More than half (55%) of Nigerian parents reported having disagreements with their children over excessive phone use, while 27% admitted being unaware of the content their children consume online. This digital disconnect highlights the need for better parental engagement and digital literacy (Kaspersky, 2024; Guardian Nigeria, 2024). Moreover, socioeconomic disparities significantly impact access to AI and smart devices across Nigeria. Urban families are more likely to have access to these technologies, while rural communities often face limitations in infrastructure and affordability, creating a digital divide that influences children's educational and social development opportunities (SmartParenting Nigeria, 2023).

### **Benefits of AI and Smart Devices in Parenting**

The integration of Artificial Intelligence (AI) and smart devices into parenting has introduced a wide range of benefits, particularly in enhancing communication, improving child safety, supporting educational development, and promoting parental efficiency. One of the most significant advantages is real-time monitoring and safety. Smart devices such as baby monitors, wearable GPS trackers, and AI-enabled home cameras allow parents to monitor their children's activities and whereabouts in real-time, offering peace of mind and enabling swift responses in case of emergencies (Floridi et al., 2018). These tools are especially helpful for working parents, allowing remote supervision and alerts when children venture outside predefined boundaries. In the domain of education, AI-powered applications can personalize learning experiences for



children based on their individual pace and learning styles. Platforms like ABCmouse, Khan Academy Kids, and other adaptive learning tools use AI to track progress and adjust content accordingly. Studies have shown that such personalized learning can improve engagement and comprehension among young learners (LeCun, Bengio, & Hinton, 2015; Okoye&Nwankwo, 2023). Another key benefit is assistance in parental decision-making. AI tools embedded in parenting apps can analyze children's sleep patterns, emotional behaviors, and health data to provide actionable insights. For instance, some AI apps can suggest bedtime routines or dietary adjustments based on logged behavioral patterns (Binns, 2018).

Moreover, AI chatbots and virtual assistants like Alexa, Siri, and Google Assistant can simplify routine parenting tasks by setting reminders, scheduling appointments, or providing quick educational trivia to children. This enhances parental productivity and allows more time for direct engagement with children (Kaspersky, 2024). For parents with children who have special needs, AI-powered assistive technologies have been a game-changer. Tools that support speech development, sensory regulation, or visual learning can significantly improve developmental outcomes for children with autism spectrum disorders or learning disabilities (Floridi et al., 2018). Furthermore, smart devices help reinforce digital literacy and early tech exposure, skills increasingly essential in today's digital economy. Introducing children to technology through supervised, constructive interactions builds familiarity and confidence with digital tools from a young age (SmartParenting Nigeria, 2023). The integration of AI and smart devices in parenting contributes to more informed, efficient, and responsive caregiving. However, these benefits are best realized when paired with proper guidance and parental involvement to ensure responsible and age-appropriate use.

### **Digital Parenting on Children's behavior, Education, and social Interactions.**

Digital parenting refers to the strategies and practices parents employ to manage their children's use of digital technologies, including smartphones, tablets, and computers. As digital devices become increasingly integrated into daily life, understanding their influence on children's development is crucial. Digital parenting plays a significant role in shaping children's behavior. Research indicates that digital parenting can positively influence children's behavior by promoting prosocial behaviors and reducing externalizing behavior problems. For instance, a study evaluating the "Born Learning" digital parenting program in Brazil found that participants exhibited decreased coercive parenting practices and improved child conduct behaviors following the intervention (Pluciennik et al., 2024). Conversely, excessive screen time without appropriate guidance can lead to behavioral issues such as increased aggression and decreased attention span (Radesky et al., 2014).

In the realm of education, digital tools can enhance learning experiences. Educational applications and online resources provide interactive and personalized learning opportunities, catering to individual learning paces and styles. However, the effectiveness of these tools depends on parental involvement. Parents who actively engage with their children's digital learning activities can reinforce educational content and promote critical thinking skills (Pluciennik et al., 2024). Without such involvement, children may become passive consumers of information, potentially hindering the

development of analytical skills. Digital technologies also impact children's social interactions. While online platforms can facilitate communication and connection, they may also contribute to social isolation if not used appropriately. Studies have shown that excessive use of digital devices can lead to reduced face-to-face interactions, affecting the development of social skills such as empathy and conflict resolution (Radesky et al., 2014). Moreover, exposure to inappropriate content and cyberbullying are concerns that necessitate active parental mediation.

### **Parental Strategies for Digital Engagement**

Parents employ various strategies to manage their children's digital engagement. These include setting screen time limits, using parental control software, and engaging in co-viewing activities to monitor and guide children's online behavior. However, the effectiveness of these strategies varies, and there is a need for comprehensive digital parenting education. "Parental Strategies for Digital Engagement" examines how parents can navigate their children's interactions with technology in ways that foster healthy, responsible, and effective digital engagement. As technology continues to influence children's development, parents are tasked with finding strategies that support both safety and skill development.

Studies have identified key Parental Strategies to include;

#### **1. Balancing Supervision with Autonomy**

Parents are shifting from strict control to a more balanced approach, which encourages autonomy while still maintaining oversight. Strategies like setting screen-time limits, co-viewing digital content, and engaging in open discussions about online experiences are integral. These methods promote digital literacy, while also addressing concerns about screen addiction and exposure to inappropriate content (Livingstone & Helsper, 2007).

#### **2. Parental Modeling of Digital Behavior**

Parents who model responsible digital behaviors (e.g., healthy device use, mindful social media engagement) significantly influence their children's technology habits. This is particularly evident in how children mimic their parents' online interactions. Engaging in joint media activities, where parents and children explore digital content together, also strengthens relationships and facilitates learning opportunities (Valkenburg & Piotrowski, 2017).

#### **3. Developmentally Appropriate Engagement**

Parental strategies should consider the child's age and developmental stage. For younger children, co-viewing and co-playing digital media can be beneficial. For older children and adolescents, parents can take a more participatory role in helping them navigate digital content and setting collaborative media rules. This approach balances oversight with encouraging independent decision-making skills (Gershon & Gumpel, 2020).

#### **4. Contextual and Cultural Sensitivity**

Cultural values and family norms shape parental digital strategies. While some parents adopt restrictive strategies, focusing on limiting screen time and controlling content, others emphasize fostering trust and autonomy in their children's digital experiences. Recognizing and adapting these strategies to a family's unique context and values can lead to more effective outcomes (Padilla-Walker & Coyne, 2011).

### **Challenges of integrating AI and smart devices into parenting practices.**

The integration of artificial intelligence (AI) and smart devices into parenting brings innovative solutions for monitoring, education, and communication. However, this adoption is not without significant challenges, particularly around privacy, over-reliance, development issues, and equity. A review of scholarly works provides the following challenges;

#### **1. Privacy and Data Security**

AI-powered parenting tools often collect sensitive data such as children's voice recordings and behavior patterns. If mishandled, this data poses serious privacy risks. For instance, data breaches like the CloudPets incident, where millions of recordings were leaked, underscore how poorly secured smart devices can endanger children's information (Peters, 2021).

#### **2. Over-Reliance on Technology**

There is a growing concern that dependence on AI for parenting may reduce direct parent-child interactions. This over-reliance could diminish opportunities for children to develop emotional intelligence and problem-solving skills, as AI lacks the nuanced human responses essential for social learning (Kucirkova & Livingstone, 2022).

#### **3. Developmental Impacts**

Children who interact extensively with AI assistants or smart devices may experience delayed social and emotional development. Studies have indicated that these devices do not offer the emotional richness of human interaction, potentially impairing empathy and interpersonal skills (Kowalski, 2023).

#### **4. Inequality and Access**

Advanced AI parenting tools can be costly, creating a digital divide where only higher-income families benefit from AI integration. This disparity may reinforce existing educational and developmental inequalities (Smith & Tan, 2023).

#### **5. Balancing Tech and Human Connection**

While AI can support routine parenting tasks (e.g., reminders, educational content), it cannot substitute for emotional bonding and guidance. Experts stress the importance of balancing technological tools with authentic, human engagement in parenting practices (Gomez, 2022). This study adopts a mixed-methods approach, combining quantitative surveys and qualitative interviews to gather data from Nigerian parents across different regions. The survey will assess the extent of AI and smart device usage, while interviews will provide in-depth insights into parental experiences, strategies, and perceptions. Data analysis will involve statistical methods for quantitative data and thematic analysis for qualitative data.

### **Conclusion**

As AI and smart devices become integral to daily life in Nigeria, it is crucial for parents to adopt informed and balanced approaches to digital parenting. This study underscores the need for comprehensive digital literacy programs and policies that support parents in managing their children's digital engagement. By fostering a collaborative effort among



parents, educators, and policymakers, Nigeria can harness the benefits of technology while mitigating its potential risks.

The integration of AI and smart devices into Nigerian households offers both opportunities and challenges in parenting. While these technologies can enhance children's learning and development, they also necessitate increased parental awareness and involvement. Addressing conflicts arising from digital usage and bridging the digital divide are essential steps toward ensuring that AI and smart devices positively impact Nigerian families.

While, AI and smart devices offer Nigerian parents and children's powerful tools for learning and communication, they also bring challenges that require active parental involvement, improved digital literacy, and equitable access. Addressing these factors is crucial for maximizing the benefits of digital parenting in Nigeria.

The integration of AI and smart devices in parenting contributes to more informed, efficient, and responsive caregiving. However, these benefits are best realized when paired with proper guidance and parental involvement to ensure responsible and age-appropriate use.

Digital parenting is a double-edged sword; when implemented thoughtfully, it can foster positive behavioral outcomes, enhance educational experiences, and support healthy social interactions. However, without proper guidance and involvement, digital technologies can pose risks to children's development. Therefore, it is essential for parents to establish balanced digital habits, set appropriate boundaries, and actively engage in their children's digital experiences to ensure their well-being and growth. The most effective digital parenting strategies incorporate a mix of supervision, engagement, and understanding. These approaches allow parents to protect their children while also fostering their digital literacy, autonomy, and safe online experiences. As children's interactions with technology continue to evolve, it is essential for parents to adapt these strategies based on developmental, contextual, and cultural factors. Incorporating AI and smart devices into parenting practices requires careful consideration of privacy, developmental impacts, and equitable access. By addressing these challenges, parents can leverage technology to support, rather than replace, traditional parenting methods.

## **Recommendations**

### **1. Need for culturally sensitive digital program**

There is the need for culturally sensitive digital literacy programs and policy frameworks to ensure responsible, inclusive, and developmentally appropriate digital parenting in Nigeria.

### **2. Implement Nationwide Digital Parenting Education Programs**

Given the widespread digital literacy gap among Nigerian parents, especially in rural and low-income areas, there is an urgent need for government and NGOs to design and implement context-specific digital parenting education programs. These should include training on AI functionalities, safe device usage, online privacy protection, and digital co-engagement strategies to empower parents to guide their children effectively in a digital world.

### 3. Promote Equitable Access to AI Tools and Smart Devices

To bridge the digital divide between urban and rural households, public-private partnerships should invest in infrastructure and subsidize access to smart devices and internet connectivity. This could involve providing low-cost educational devices or creating community digital hubs where families can access AI-powered learning tools and receive technical support.

### 4. Encourage Balanced Tech Use Through Policy and Design

Educational institutions, tech developers, and policymakers should collaborate to promote balanced technology usage. For example, schools could integrate tech literacy into curricula, while developers should build features that support screen-time limits, child-safe content filters, and human-AI interaction models that encourage parental involvement rather than replacement.

### 5. Strengthen Data Privacy Regulations for Child-Centric Technologies

Due to increasing concerns over data privacy and surveillance risks, the Nigerian government should strengthen and enforce data protection laws particularly for AI tools used in family settings. This includes mandating transparency in data collection and usage by device manufacturers and ensuring that smart toys, apps, and home assistants comply with child-specific data privacy standards

## References

- Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs*, 75(1), 43–88.
- Binns, R. (2018). *Fairness in machine learning: Lessons from political philosophy*, Proceedings of the 2018 Conference on Fairness, Accountability and Transparency, 149–159.
- Bornstein, M. H. (2019). *Parenting and child development: An overview*. In M. H. Bornstein (Ed.), *Handbook of Parenting* (3rd ed., Vol. 1, pp. 1–16). Routledge.
- European Commission. (2020). *White Paper on Artificial Intelligence*, A European Approach to Excellence and Trust.
- Floridi, L., Cowls, J., Beltrametti, M., et al. (2018). AI4People – An ethical framework for a good AI society, *Minds and Machines*, 28(4), 689–707.
- Gomez, R. (2022). *The role of AI in modern parenting*. Toxigon, Retrieved from <https://toxigon.com/the-role-of-ai-in-modern-parenting>
- Guardian Nigeria. (2024). *Digital misunderstanding: 55% of Nigerian parents have conflicts with their children over screen time*, Retrieved from <https://guardian.ng>
- Kaspersky. (2024). *Power of role model: How digital habits of Nigerian parents and children are interlinked*. Retrieved from <https://itedgenews.africa>

- Khurana, N. (2015). Digital parenting: Parental mediation strategies for the internet use of Indian adolescents. *Journal of Human Behavior in the Social Environment*, 25(2), 178–188. <https://doi.org/10.1080/10911359.2014.956961>
- Kowalski, J. (2023). *AI and child development: An emerging concern*. MedicineNet, Retrieved from <https://medicine.net/news/Pediatrics/Voice-control-smart-devices-might-hinder-kids-social-and-emotional-development>
- Kucirkova, N., & Livingstone, S. (2022). *The impact of AI on parent-child interactions*, Growing Together. Retrieved from <https://growingtogether.click/ai-co-parents-navigating-the-pros-and-cons-of-artificial-intelligence-in-modern-parenting>
- LeCun, Y., Bengio, Y., & Hinton, G. (2015). Deep learning. *Nature*, 521(7553), 436–444.
- Livingstone, S., & Blum-Ross, A. (2020). *Parenting for a Digital Future: How hopes and fears about technology shape children's lives*. Oxford University Press.
- McCarthy, J., Minsky, M. L., Rochester, N., & Shannon, C. E. (1955). *A proposal for the dartmouth Summer Research Project on Artificial Intelligence*.
- Mulenga, I. M. (2022). Artificial Intelligence in Early Childhood Education in Zambia: Challenges and Prospects. *Journal of Communication and Sustainable Development*, 10(2), 32–45.
- Ndubuisi, N., & Oguamanam, C. (2021). AI and Africa: The prospects and limitations of AI for sustainable development. *African Journal of Science, Technology, Innovation and Development*.
- Okoye, C. N., & Nwankwo, O. A. (2023). Use of AI-based educational technologies and early childhood cognitive development in Nigeria, *Nigerian Journal of Early Childhood and Education Research*, 5(1), 88–102.
- Okoye, P. A., & Nwankwo, C. N. (2023). Parental digital literacy and children's AI-assisted learning in Anambra State, Nigeria. *African Journal of Educational Technology*, 14(1), 56–72.
- Peters, T. (2021). *Connected toys and data vulnerabilities*, Wikipedia. Retrieved from [https://en.wikipedia.org/wiki/Connected\\_toys](https://en.wikipedia.org/wiki/Connected_toys)
- Pluciennik, G. A., de Oliveira, R. C., Aratangy, G., Marino, E., & Gaspardo, C. M. (2024). Digital Parenting Program: Enhancing Parenting and Reducing Child Behavior Problems. *Children*, 11(8), 980. <https://doi.org/10.3390/children11080980>
- Radesky, J. S., Schaller, A., & Zuckerman, B. (2014). Use of Mobile Technology in the Care of Children. *Pediatrics*, 134(5), 1–8. <https://doi.org/10.1542/peds.2014-1741>

Russell, S., & Norvig, P. (2021). *Artificial Intelligence: A modern approach (4th ed.)*, Pearson.

SmartParenting Nigeria. (2023). *How smart technology is transforming parenting in Nigeria*, Retrieved from <https://smartparenting.ng>

Smith, R., & Tan, Y. (2023). Digital inequality in AI parenting tools, *Journal of Digital Equity*, 15(2), 45-58.