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Safeguarding Children's Human and Educational Rights in the Age of Artificial Intelligence: Legal and Regulatory Challenges in Nigeria

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Abstract

The rapid integration of Artificial Intelligence (AI) and digital technologies into educational systems has transformed learning environments while simultaneously raising complex legal and ethical concerns regarding the protection of children's rights. In Nigeria, where digital adoption is expanding amid evolving regulatory frameworks, the safeguarding of children's human and educational rights in the age of AI presents significant challenges. This study examines the legal and regulatory implications of AI-driven technologies on children's rights, with particular focus on privacy, data protection, access to equitable education, algorithmic bias, and online safety. Adopting a doctrinal and socio-legal approach, the paper critically analyses existing national legal instruments, including constitutional provisions, child protection laws, and data governance frameworks, alongside relevant international standards. The study identifies gaps in the current regulatory regime, particularly in addressing emerging risks associated with AI-enabled educational platforms, such as surveillance, misuse of children's data, and unequal access to digital resources. The findings reveal that while Nigeria has made progress in establishing general child rights and data protection laws, these frameworks remain insufficiently adapted to the complexities introduced by AI technologies. The paper argues for a comprehensive, child-sensitive regulatory approach that integrates AI governance with human rights protections. It recommends the development of robust policies, enhanced institutional capacity, and the incorporation of ethical AI principles to ensure that technological innovation does not undermine children's rights. The study contributes to ongoing scholarly and policy debates by highlighting the urgent need for legal reform and proactive regulation to safeguard children's human and educational rights in Nigeria's evolving digital landscape.

Keywords: Artificial Intelligence (AI); Children's Rights; Educational Rights; Digital Technologies; Data Protection; Privacy; Algorithmic Bias; Online Safety; Legal Framework; Nigeria.

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Introduction

The integration of Artificial Intelligence (AI) and digital technologies into educational and social environments has reconfigured how children interact, learn, and participate in contemporary society. While these technological advancements offer significant opportunities for enhancing educational access, personalised learning, and digital engagement, they also raise profound legal and human rights concerns, particularly for children — a group recognised as especially vulnerable under national and international law (Djeffal, 2022). The United Nations Convention on the Rights of the Child (UNCRC) and related instruments enshrine children's rights to privacy, education, protection from exploitation, and participation in matters affecting them. However, translating these rights into the digital era — where AI systems routinely collect, analyse, and act upon biometric, behavioural, and educational data — remains deeply contested and under-regulated (Nawaila et al., 2020).

In Nigeria, the legal landscape has undergone recent modernization with the enactment of the Nigeria Data Protection Act (NDPA) 2023, which seeks to govern the collection and processing of personal data in a rapidly digitising economy. Yet substantive legal safeguards specific to children's interactions with AI technologies — especially in educational contexts where AI-driven systems increasingly inform pedagogical decisions, profiling, and learning analytics — remain limited. Although the NDPA provides baseline protections for personal data, recent analyses indicate that it lacks robust child-specific provisions that address algorithmic bias, automated decision-making, meaningful consent, and transparency in AI applications (Iyoha-Osagie & George, 2024). Furthermore, extant child protection laws, such as the Child Rights Act 2003, contain general privacy protections but do not explicitly confront online safety threats such as cyber exploitation, data misuse, or AI surveillance (Shittu-Adenuga & Owolabi, 2025).

Despite these legislative developments, there is a conspicuous gap in the literature concerning the intersection of AI regulation, children's human rights, and educational rights in Nigeria. Previous studies have examined aspects of children's online data protection or general national AI regulation frameworks, yet few have holistically situated these within the framework of children's human and educational rights in the context of AI — particularly the analysis of regulatory deficiencies, ethical risks, and the potential harms posed by

algorithmic systems in Nigerian educational environments. For example, while research has explored the adequacy of legal frameworks to combat child data breaches, it stops short of addressing broader AI-specific concerns such as algorithmic bias and autonomous decision-making inherent in learning platforms (Iyoha-Osagie & George, 2024). Similarly, examinations of Nigeria's AI regulatory framework tend to focus on broad policy design without explicit attention to children's rights issues (Otong, 2025).

This study is therefore motivated by the urgent need to fill this knowledge and regulatory gap by critically analysing Nigeria's existing legal and regulatory frameworks through a child-rights lens that foregrounds both human and educational rights in the era of AI. Specifically, it investigates how current laws address (or fail to address) children's privacy, data protection, educational equity, algorithmic transparency, and participation rights in digital educational settings. By doing so, the research aims to offer legally grounded recommendations for a child-sensitive regulatory approach that can not only safeguard rights but also guide policymakers in refining Nigeria's legal architecture for emerging digital realities.

Theoretical Framework

The Rights-Based Theory (RBT) provides a comprehensive and robust framework for examining the protection and promotion of children's human and educational rights, particularly in AI-mediated learning environments. At its core, RBT asserts that all individuals, including children, possess inherent, inalienable rights that must be recognized, respected, and safeguarded by both legal and institutional structures (Freeman, 2011). Unlike approaches that view children as passive recipients of protection, RBT emphasizes their agency and participation, positioning them as rights-holders whose entitlements demand both formal legal recognition and practical enforcement. Within the context of AI and education, this theory becomes particularly relevant, as technological innovations—while offering opportunities for personalized learning and enhanced educational access—may inadvertently compromise children's rights through privacy violations, algorithmic bias, or inequitable access. By foregrounding principles such **as** equity, participation, accountability, and protection**,** RBT aligns directly with international human rights instruments, most notably the United Nations Convention on the Rights of the Child (UNCRC)**,** which obliges states to ensure that children's rights are

fully realized in all spheres of society, including the digital and educational realms.

Applying RBT to this study enables a critical evaluation of Nigeria's legal and regulatory frameworks**,** including the Child Rights Act 2003 and the Data Protection Act 2023**,** assessing their adequacy in safeguarding children's rights within AI-enhanced educational contexts. The theory provides a lens to interrogate whether these laws not only articulate children's rights but also ensure their practical fulfillment amidst rapid technological change. It also supports a socio-legal analysis of the ethical and pedagogical implications of AI deployment in schools, emphasizing that technological advancement must not undermine children's dignity, autonomy, or equitable access to education (Holmes, 2025; Aitken et al., 2025). Through RBT, the study can explore the extent to which Nigerian policies incorporate safeguards against emerging risks such as automated decision-making, data misuse, and digital exclusion, providing a basis for recommending legal, policy, and educational reforms.

Furthermore, Rights-Based Theory offers a practical framework for bridging the gap between law, policy, and implementation**,** guiding not only legal compliance but also the ethical integration of AI in education. By emphasizing accountability and participation, RBT encourages policymakers, educators, and technology developers to design and implement AI systems that actively uphold children's rights while simultaneously enhancing learning outcomes. This dual focus—on legal protection and practical enforcement—ensures that AI technologies contribute positively to the educational experience without compromising the fundamental rights of learners. In integrating RBT, this study is positioned to critically analyze both the theoretical adequacy and the operational effectiveness of Nigerian legal instruments, ensuring that AI adoption in education aligns with global human rights standards and fosters an environment where children's learning, safety, and personal development are fully respected and promoted.

Children's Human Rights

Children's human rights are internationally recognized under the *United Nations Convention on the Rights of the Child (UNCRC)*, which codifies rights to protection, participation, and development (Djeffal, 2022). These rights encompass not only basic survival needs but also the right to dignity, autonomy, and freedom from exploitation. In the digital era, however, traditional human rights frameworks are being challenged by technological

transformations, particularly AI and digital platforms, which often collect and process children's data without adequate safeguards (Holmes, 2025). Studies indicate that children's vulnerability in digital contexts necessitates a nuanced approach to rights protection that considers evolving technological risks (Nawaila et al., 2020).

Scholars highlight that AI's automated decision-making capabilities can affect children's human rights in subtle ways. For instance, algorithms that track learning behaviors, social interactions, or content consumption may inadvertently discriminate against certain groups of children, particularly those from marginalized backgrounds (Gouseti et al., 2024). This aligns with concerns about algorithmic bias, lack of transparency, and restricted agency for children, who often cannot provide informed consent or challenge decisions affecting them (Aitken et al., 2025). Such risks demonstrate that the deployment of AI technologies without a child-rights framework can undermine fundamental human rights protections.

Empirical research emphasizes the tension between children's rights to autonomy and protection in AI-mediated environments. While AI can enable personalized learning, it can also restrict choice by recommending content or interventions based on algorithmic predictions, sometimes reinforcing existing inequalities (Holmes, 2025). Furthermore, children's participation rights are frequently neglected; they are rarely consulted in the design or implementation of AI tools, reducing their agency in educational and social contexts (Aitken et al., 2025). This highlights the need for inclusive and participatory approaches in AI governance.

In the Nigerian context, children's human rights are protected under the Child Rights Act 2003, which incorporates UNCRC principles into national law (Shittu-Adenuga & Owolabi, 2025). However, scholars argue that the Act does not explicitly address the complexities posed by AI or digital technologies, leaving significant gaps in safeguarding children's rights online (Iyoha-Osagie & George, 2024). This suggests that while Nigeria has a legal framework for general child protection, the rapid digitalization of education introduces new vulnerabilities not accounted for by existing law.

Consequently, a critical consensus in the literature is that children's human rights in the digital era require integrative strategies that combine legal safeguards, ethical AI governance, and educational oversight (Djeffal, 2022;

Holmes, 2025). Such approaches should ensure that children are protected from exploitation, discrimination, and manipulation while retaining agency and participation in AI-mediated environments. This study builds upon these findings by analyzing Nigeria's legal framework and its capacity to protect children's human rights in AI-based educational contexts.

Educational Rights

Educational rights are an essential component of children's human rights, guaranteeing access to quality education, equity, and lifelong learning opportunities (). In the era of AI and digital technologies, educational rights extend beyond traditional classroom instruction to include access to digital learning resources, adaptive platforms, and AI-mediated educational content (Holmes, 2025). Scholars argue that technology should enhance learning equity, not exacerbate existing educational disparities, which remain a significant concern in many developing countries, including Nigeria (Samuel et al., 2025).

Research highlights the dual impact of AI on educational rights. On one hand, AI enables personalized learning, assessment automation, and improved pedagogical efficiency (Gouseti et al., 2024). On the other hand, disparities in digital access and algorithmic biases can impede children's right to equal educational opportunities (Bali et al., 2024). For example, children in rural or low-income areas often lack access to AI-enhanced learning tools, reinforcing socio-economic inequities. Scholars emphasize that equitable deployment of AI in education requires careful consideration of infrastructure, teacher training, and inclusion strategies.

Educational rights also encompass non-discrimination and participation. AI systems that filter or recommend content based on predictive analytics may inadvertently limit curricular diversity or marginalize certain groups of learners (Holmes, 2025). Research indicates that children should be active participants in AI-mediated education to ensure that learning experiences align with their developmental needs and cultural contexts (Aitken et al., 2025). This underscores the importance of designing AI tools that respect the pedagogical and rights-based dimensions of education.

In Nigeria, educational rights are legally protected under the Constitution and the Universal Basic Education Act (UBE Act), which guarantee free and compulsory primary education (Bali et al., 2024). However, scholars argue

that legal instruments have not sufficiently addressed digital or AI-related challenges, such as online content monitoring, algorithmic transparency, and equitable access to technology-enhanced learning (Otong, 2025). As AI becomes integral to Nigerian classrooms, these gaps present both ethical and legal concerns.

Overall, the literature calls for integrating AI governance with the protection of educational rights, emphasizing fairness, inclusion, and quality (Samuel et al., 2025; Holmes, 2025). Policymakers are encouraged to develop child-centered frameworks that combine legal, technological, and pedagogical safeguards to ensure AI supports rather than undermines children's right to education. This study extends this discourse by examining how Nigeria's existing laws protect educational rights in AI-enhanced learning contexts.

Artificial Intelligence (AI) in Education

Artificial Intelligence has become a transformative force in education, enabling personalized learning, automated assessment, intelligent tutoring, and data-driven instructional decision-making (Holmes, 2025). AI applications can improve learning outcomes, facilitate adaptive content delivery, and enhance classroom efficiency. The literature emphasizes that AI's educational potential is most significant when coupled with appropriate pedagogical frameworks and ethical oversight (Gouseti et al., 2024). However, AI also raises significant ethical and legal questions concerning autonomy, fairness, privacy, and the protection of vulnerable learners.

Scholars note that AI-driven educational platforms can introduce algorithmic biases that negatively impact students from disadvantaged or minority groups (Gouseti et al., 2024). Predictive learning algorithms, if trained on non-representative datasets, may misclassify student performance or reinforce stereotypes. Additionally, AI systems often operate as "black boxes," offering little transparency in decision-making, which undermines accountability and the ability of learners or educators to contest automated decisions (Holmes, 2025). Such risks indicate the necessity of integrating ethical AI principles into educational deployment.

The literature also highlights AI's implications for teacher roles and pedagogical approaches. AI can automate repetitive tasks, freeing teachers to focus on individualized support, yet excessive reliance on AI may deskill

educators or reduce meaningful interaction with students (Bali et al., 2024). Scholars argue that AI should supplement rather than replace human judgment, ensuring that educational experiences remain relational, context-aware, and developmentally appropriate (Samuel et al., 2025).

In Nigeria, studies of AI in education indicate both opportunities and limitations. AI has been piloted in e-learning platforms, adaptive assessment tools, and resource recommendation systems, but infrastructural constraints, limited digital literacy, and inconsistent policy frameworks hinder widespread implementation (Otong, 2025). Research suggests that without clear regulatory guidance, AI deployment risks reinforcing inequality, infringing on children's rights, and exacerbating educational gaps (Bali et al., 2024).

The literature therefore underscores the need for legal, ethical, and pedagogical frameworks to guide AI integration in education (Gouseti et al., 2024). AI should be deployed in ways that uphold children's rights, promote equity, and enhance learning outcomes. This study examines Nigeria's regulatory capacity to align AI in education with children's human and educational rights, addressing gaps identified in prior research.

Methodology

The combined doctrinal and socio-legal methodology is particularly suitable for this study due to the interdisciplinary nature of the research problem, which spans law, technology, education, and human rights. Doctrinal analysis ensures rigorous legal interpretation, while the socio-legal perspective provides insight into how laws and regulations interact with AI applications and educational practices in Nigeria (Iyoha-Osagie & George, 2024). This approach allows the study to generate actionable recommendations for legal reform, policy development, and child-centered AI governance.

The study critically analyses existing national legal instruments, including the Constitution of the Federal Republic of Nigeria (1999, as amended), the Child Rights Act 2003, and the Nigeria Data Protection Act 2023, alongside relevant regulations and guidelines issued by government agencies (Iyoha-Osagie & George, 2024; Otong, 2025). In addition, international instruments such as the United Nations Convention on the Rights of the Child (UNCRC) and UNESCO's guidelines on Ethical AI in Education are examined to provide comparative perspectives and best-practice standards (Aitken et al., 2025). The research focuses on the interplay between AI technologies, children's human

and educational rights, and the legal mechanisms designed to safeguard these rights within Nigeria's digital educational landscape.

To ensure the study's relevance and comprehensiveness, sources were selected based on specific inclusion and exclusion criteria. Included were legal and policy documents such as statutes, regulations, policy guidelines, and court decisions that explicitly address children's rights, data protection, and AI in education; international standards and guidelines from recognized global bodies, including the UNCRC, UNESCO, and UNICEF, which pertain to children's rights in digital and AI contexts; peer-reviewed academic literature published between 2015 and 2026, including research articles, books, and reports on AI in education, children's human and educational rights, and digital governance; and studies specifically relevant to the Nigerian context, focusing on national legal frameworks, educational policies, and digital adoption. Sources were excluded if they focused exclusively on AI in sectors unrelated to education or children's rights, lacked scholarly validation such as unverified blogs or opinion pieces, addressed children's rights or AI in countries with socio-legal contexts markedly different from Nigeria without comparative value, or were published before 2015, given the significant evolution of technological and legal frameworks affecting AI in education.

Data collection involves systematic identification and review of legal texts, policy documents, and scholarly literature meeting the inclusion criteria. The doctrinal component analyses legal texts to interpret statutory provisions, regulatory obligations, and compliance mechanisms in relation to children's human and educational rights (Oloyede, 2020). The socio-legal component contextualizes these findings by examining the social and educational realities in which AI operates, highlighting potential gaps, ethical concerns, and practical challenges (Aluko, 2022; Otong, 2025). The study employs content and thematic analysis to identify recurring patterns, regulatory gaps, and areas where international best practices can inform national reforms.

In a nutshell, the combined doctrinal and socio-legal methodology is particularly suitable for this study due to the interdisciplinary nature of the research problem, which spans law, technology, education, and human rights. Doctrinal analysis ensures rigorous legal interpretation, while the socio-legal perspective provides insight into how laws and regulations interact with AI applications and educational practices in Nigeria (Iyoha-Osagie & George, 2024). This approach allows the study to generate actionable

recommendations for legal reform, policy development, and child-centered AI governance.

Results and Discussion of Findings

First, the analysis reveals that AI systems in educational contexts pose significant challenges to the protection of children's human rights in Nigeria. Doctrinal review of the Child Rights Act 2003 and related statutes indicates that while the law provides broad protections for children, it does not explicitly address AI-mediated risks such as automated profiling, behavioral tracking, and algorithmic decision-making (Iyoha-Osagie & George, 2024). For example, AI-driven learning platforms often collect sensitive personal and behavioral data without mechanisms for informed consent or recourse, raising potential violations of privacy and dignity — core components of children's rights under the UNCRC (Djeffal, 2022). Socio-legal analysis further highlights that the lack of child-centered AI governance in Nigeria increases vulnerability to exploitation, bias, and discrimination (Holmes, 2025). These findings align with international scholarship, which emphasizes that the digital environment creates new dimensions of risk for children, necessitating both proactive regulatory measures and ethical AI design principles (Aitken et al., 2025).

Second, the study finds that children's educational rights, particularly access to quality and equitable learning opportunities, are both enhanced and constrained by AI technologies. On one hand, AI platforms facilitate personalized learning, adaptive assessment, and interactive educational content, which can improve learner engagement and performance (Gouseti et al., 2024). On the other hand, unequal access to digital infrastructure, including internet connectivity and AI-enabled devices, perpetuates disparities among learners in urban and rural areas, violating the principle of equitable educational rights (Samuel et al., 2025). Additionally, algorithmic decision-making may inadvertently bias curricular recommendations, limiting exposure to diverse learning materials and constraining children's ability to fully participate in their education (Holmes, 2025). These findings indicate that while AI can be a tool for enhancing education, it simultaneously introduces structural inequities that must be mitigated through inclusive policy frameworks and regulatory oversight.

Third, analysis of Nigeria's Data Protection Act 2023 (NDPA) reveals partial alignment with international data protection standards, but significant

gaps remain concerning children's digital rights. The study finds that AI applications in education frequently operate in ways that challenge principles of informed consent, transparency, and accountability, particularly for minors who may not comprehend the implications of data collection and processing (Otong, 2025; Dube et al., 2026). Unlike GDPR-like frameworks in Europe, Nigerian law does not provide specialized provisions for children in AI-mediated environments, exposing them to potential data breaches, unauthorized profiling, and exploitation (Iyoha-Osagie & George, 2024). Socio-legal analysis indicates that these regulatory gaps are compounded by limited enforcement mechanisms and low awareness among educators, parents, and policymakers, highlighting the need for child-centered data protection policies and capacity-building initiatives (Aluko, 2022).

Fourth, the study identifies that Nigeria's legal and regulatory architecture provides a foundation for protecting children's rights but is insufficiently responsive to emerging AI challenges. While the Constitution, Child Rights Act, and NDPA establish general principles of child protection, data privacy, and digital governance, the absence of AI-specific provisions, regulatory guidelines, or oversight mechanisms creates significant enforcement gaps (Otong, 2025). Comparative review of international standards, such as UNESCO's guidelines for ethical AI and UNCRC recommendations, shows that proactive regulatory strategies, algorithmic transparency, and child-focused policy interventions are critical for safeguarding rights in AI-mediated education (Aitken et al., 2025). The findings suggest that Nigeria's legal framework requires reform to integrate AI-specific protections, enforce compliance, and ensure that technology adoption does not compromise children's human or educational rights.

Overall, the findings highlight a complex interplay between technological innovation and rights protection. AI can enhance learning outcomes and expand educational opportunities but simultaneously creates novel risks for children's privacy, autonomy, and equitable access. Legal and regulatory gaps exacerbate these risks, underscoring the need for child-centered AI governance, ethical compliance, and targeted policy reforms (Holmes, 2025; Iyoha-Osagie & George, 2024). By analyzing both doctrinal and socio-legal dimensions, the study demonstrates that safeguarding children in AI-mediated education requires a multidimensional strategy that integrates law, policy, technology, and pedagogy. These results provide a foundation for developing

practical recommendations aimed at harmonizing AI adoption with the protection of children's human and educational rights in Nigeria.

Implications of the Study

The study highlights significant gaps in Nigeria's legal and regulatory frameworks regarding AI and children's rights. Existing laws provide general protection for children but do not explicitly address the risks posed by AI technologies, such as automated decision-making, algorithmic bias, and data privacy concerns in educational contexts. This underscores the need for comprehensive legal reforms that integrate child-centered AI safeguards, establish accountability mechanisms for AI developers and educational institutions, and ensure alignment with international standards for children's rights.

Artificial Intelligence has the potential to enhance learning experiences through personalized instruction, adaptive assessments, and access to diverse educational resources. However, unequal access to technology and digital infrastructure risks reinforcing existing educational disparities. Educational institutions must therefore prioritize equitable access, provide digital literacy training for teachers and students, and carefully integrate AI systems to ensure that all children benefit from technology-enhanced education without compromising their rights or learning outcomes.

The study reveals that children are particularly vulnerable to breaches of privacy and misuse of personal information in AI-driven learning environments. There is a pressing need for data protection strategies specifically tailored to children, including age-appropriate consent mechanisms, clear transparency on data collection, and monitoring of AI platforms in schools. Strengthening data governance policies and enforcing compliance can help protect minors from exploitation and unauthorized use of their personal information.
Ethical considerations are central to the deployment of AI in educational settings. AI should be used in ways that protect children's dignity, autonomy, and right to participation, while avoiding discrimination and bias. Including children, educators, and parents in the design and implementation of AI systems can promote accountability, social legitimacy, and ethical compliance. A participatory approach ensures that AI tools are not only technically efficient but also socially and ethically responsible.

The study contributes to knowledge by linking doctrinal legal analysis with socio-legal perspectives, providing a multidimensional view of children's rights in the context of AI in education. It lays a foundation for future research that examines the intersection of technology, law, and education. Scholars and practitioners can build on these findings to develop frameworks that integrate legal, ethical, and pedagogical considerations when designing or regulating AI-based educational tools, ensuring that technological advancement aligns with the protection of children's rights.

Limitations of the Study

Despite the insights provided, this study has certain limitations that should be acknowledged. First, the research relies primarily on a doctrinal and socio-legal analysis, which involves the review of existing laws, policies, and scholarly literature. While this approach allows for in-depth theoretical and regulatory assessment, it does not include empirical data from children, educators, or policymakers, which may limit the understanding of practical experiences and challenges in AI-mediated educational environments.

Second, the study focuses specifically on the Nigerian legal and regulatory context, drawing comparisons with select international standards. While this provides relevant insights for policy and practice within Nigeria, the findings may not be directly generalizable to other countries with different socio-legal and technological landscapes. Consequently, broader cross-national comparisons of AI governance and child protection are beyond the scope of this research.

Third, the rapidly evolving nature of AI technologies presents a limitation. New AI applications, tools, and regulatory interventions are continuously emerging, and the legal and technological environment may change after the completion of this study. This dynamic context implies that some findings and recommendations may require future updates to remain relevant and effective.

Fourth, while efforts were made to include comprehensive legal documents and scholarly literature published between 2015 and 2026, some relevant materials may have been inaccessible or unpublished, which could affect the completeness of the analysis. Additionally, the study did not extensively explore the technical aspects of AI systems, such as algorithm design or software architecture, which may influence children's rights in practice.

Finally, the study is constrained by the scope of its thematic focus, concentrating on children's human and educational rights in AI-mediated learning. Other important dimensions, such as AI in health, entertainment, or social media, were not considered, even though these domains may also impact children's rights. Despite these limitations, the study provides a critical and timely analysis of the regulatory and ethical challenges associated with AI in Nigerian education, offering a strong foundation for future empirical and policy-oriented research.

Future Directions of the Study

Building on the findings, limitations, and gaps identified in this study, several future research directions are proposed to further advance the understanding of children's rights in the age of Artificial Intelligence (AI). First, there is a need for empirical studies involving children, educators, and policymakers to explore the practical experiences, perceptions, and challenges associated with AI-mediated learning environments. Such research could employ surveys, interviews, and participatory methods to assess how AI affects children's autonomy, learning engagement, and privacy in real-world educational settings.

Second, future research should expand beyond Nigeria to include comparative cross-national analyses, examining how different countries regulate AI in education and protect children's rights. This would provide insights into best practices, policy innovations, and potential lessons for adapting Nigeria's legal and regulatory frameworks to emerging AI challenges. Comparative studies could also investigate cultural and socio-economic factors that shape AI adoption and children's access to technology.

Third, there is a need for studies focusing on the technical and ethical design of AI systems in education, including algorithmic transparency, fairness, and accountability. Research could examine how AI tools can be developed in alignment with children's rights principles, ensuring that educational outcomes are equitable and that biases are minimized. Such studies could bridge the gap between legal norms, ethical standards, and technological implementation.

Fourth, future investigations should explore data protection and digital literacy interventions, assessing their effectiveness in safeguarding children's personal information while promoting safe and responsible use of AI technologies. This

includes evaluating consent mechanisms, parental involvement, and school policies to ensure that children's rights are protected without hindering access to innovative learning tools.

Finally, longitudinal studies are recommended to track the long-term impact of AI on children's human and educational rights, including cognitive, social, and ethical development. Understanding the sustained effects of AI integration in schools will provide policymakers, educators, and legal authorities with evidence-based guidance for designing child-centered AI governance frameworks. By addressing these directions, future research can contribute to developing comprehensive strategies that harmonize technological innovation with the protection and promotion of children's rights in the digital era.

Conclusion and Recommendations

This study has examined the legal and regulatory challenges associated with safeguarding children's human and educational rights in the context of Artificial Intelligence (AI) in Nigeria. The findings reveal that while Nigeria has foundational legal instruments, including the Child Rights Act 2003, the Constitution, and the Data Protection Act 2023, these frameworks do not adequately address the specific risks posed by AI technologies in education. AI offers significant opportunities for personalized learning, adaptive assessment, and enhanced educational outcomes, yet it also introduces challenges such as data privacy breaches, algorithmic bias, inequitable access, and diminished agency for children. The socio-legal analysis further highlights that the practical implementation of AI in Nigerian schools often lacks ethical oversight, participatory governance, and mechanisms to protect vulnerable learners. Consequently, there is an urgent need for integrated policy, legal, educational, and technological strategies that ensure AI adoption aligns with the principles of child-centered education and rights protection. Overall, this study contributes to the literature by bridging doctrinal legal analysis with socio-legal insights, providing a foundation for evidence-based reforms to protect children in AI-mediated learning environments. Based on the overall findings of the Study, the following recommendations are made:

I. The Nigerian government should revise existing laws to include AI-specific provisions that protect children's human and educational rights. This should involve explicit safeguards against algorithmic bias, automated decision-making, and the misuse of

children's data, ensuring alignment with international standards such as the UNCRC and UNESCO ethical AI guidelines.

II. Educational authorities should implement policies and infrastructure programs that guarantee equitable access to AI-enabled learning tools across urban and rural areas. This includes providing affordable devices, internet connectivity, and adaptive learning platforms to reduce educational disparities.

III. Schools, policymakers, and AI developers should establish robust data protection measures tailored for children, including age-appropriate consent protocols, transparent data usage policies, and regular audits of AI platforms to prevent exploitation or unauthorized access to personal information.

IV. Teachers, school administrators, and parents should receive training on the ethical use of AI in education, digital literacy, and children's rights. This will enable stakeholders to monitor AI deployment effectively, support children in navigating AI tools safely, and ensure pedagogical practices remain inclusive and rights-based.

V. The development and implementation of AI in educational settings should adopt participatory approaches that involve children, educators, and parents in decision-making processes. Ethical review boards or oversight committees should be established to evaluate AI tools before deployment, ensuring accountability, transparency, and alignment with children's rights and educational objectives.

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