



EDUCATION AS A CATALYST FOR DEMOGRAPHIC TRANSITION: A MULTIDIMENSIONAL PERSPECTIVE

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ABSTRACT

Education remains one of the most powerful tools for shaping not only individual lives but also the future of entire societies. In Nigeria, where growing population present both opportunities and challenges, education plays a vital role in driving demographic transition. This study, titled “Education as a Catalyst for Demographic Transition: A Multidimensional Perspective”, explores how education influences key demographic indicators from health, economic, gender, cultural, and political perspectives. Drawing on current literature and real-world evidence, the study demonstrates that increased access to quality education leads to lower fertility rates, delayed marriages, improved health awareness, and stronger civic participation. By examining the four stages of the demographic transition model—pre-transition, early transition, late transition, and post-transition, the study shows how rising educational attainment can accelerate the shift from high fertility and mortality rates to more stable, lower levels. The findings underscore how female education, in particular, has a ripple effect: educated women tend to have healthier children, more secure incomes, and the power to challenge cultural norms around high fertility. The study concludes that for Nigeria to fully harness the benefits of its growing population, sustained investment in inclusive and equitable education is essential. Such investment not only stabilizes population growth but also lays the groundwork for a healthier, more prosperous, and equitable society. It is recommended that deliberate efforts be made to ensure that girls’ have equal access to education, particularly in rural areas. Initiatives such as scholarships, mentorship, and basic health services can empower young girls, reduce maternal and child mortality, and foster more resilient communities.

Keywords: Education, Catalyst, Demographic Transition, Multidimensional, Perspective



Introduction

Education is universally acknowledged as a transformative force, serving as a fundamental means through which individuals acquire knowledge, skills, and values essential for personal development and social progress. It prepares students for the world of work and the building of human capital for capacity development (Obona, Udokpan, & Bepeh, 2024). In the Nigerian context, the education sector is managed and financed by various levels of government—federal, state, and local. More so, it is regarded as a crucial instrument for fostering human capital development and national growth by providing learners with advanced knowledge, practical skills, moral grounding (Obona et al., 2024; Madukwe et al., 2024; Ngene et al., 2024; Egbo et al., 2025), and the competencies needed for both personal advancement and professional success.

The National Policy on Education (NPE, FRN, 2013) advocates for inclusive education, increased public enlightenment on the abilities and rights of persons with special needs, and their empowerment for independence and active contribution to national progress (Iyiegbuniwe et al., 2025). Thus, as an engine of societal transformation, education plays a pivotal role in shaping attitudes toward health, economic empowerment, gender equality, cultural practices, and civic participation. It contributes significantly to demographic shifts by broadening perspectives, enhancing opportunities, and influencing the dynamic evolution of communities in an increasingly interconnected world.

Concept of demographic transition

Demographic transition can be described as the gradual change in a population's birth and death rates as a society develops both economically and socially. It's a foundational idea in demography that helps explain how populations shift from having high fertility and mortality to much lower rates over time. In the earliest phase, both births and deaths are high, which keeps the population size relatively stable. However, as a country begins to progress with better healthcare, improved living conditions, and improved sanitation death rates start to decline. This leads to a surge in population growth.

Eventually, as education becomes more widespread particularly among women and access to reproductive health services improves, birth rates also begin to fall. This shift helps stabilize the population. In the later stages of this transition, both birth and death rates are low, and many developed countries now face aging populations or even a gradual population decrease (Population Reference Bureau, 2018; United Nations Development Programme, 2018). This transition model helps researchers and policymakers understand how population trends are linked to broader economic and social changes. Factors such as improved education, urban living, better access to healthcare, and family planning services all play major roles in this process (Population Education, 2018).

Different scholars have contributed to our understanding of this shift. Lee (2018) points out how these changes reshape population structures and influence growth patterns. Harper (2018) stresses the importance of education and healthcare in speeding up the transition. Saito (2018) offers a fresh perspective, suggesting that declining death rates may have started even before the industrial revolution, thanks to early public health initiatives. From a biological and social



standpoint, Snopkowski and Kaplan (2018) explore how people adapt their reproductive behavior in response to changing conditions. Meanwhile, Dai (2016) talks about a "second demographic transition"—a stage marked by fertility rates falling below replacement levels and changes in family dynamics.

The demographic transition reflects the deep connections between health, education, economy, and cultural change. Gaining a better understanding of these patterns is essential for making informed decisions about the future of population growth and development. The demographic transition generally progresses through four main stages:

- i. **Pre-transition stage:** This initial phase is marked by both high birth and high death rates. Because the rates balance each other out, overall population growth remains minimal and relatively stable.
- ii. **Early transition stage:** In this stage, death rates begin to fall, thanks to advances in healthcare, sanitation, and food availability. However, birth rates remain high, resulting in a sharp increase in population growth.
- iii. **Late transition stage:** As societies continue to develop, birth rates also begin to decline, gradually aligning with the already reduced death rates. This leads to a slowdown in the rate of population growth.
- iv. **Post-transition stage:** Here, both birth and death rates are low, leading to a stabilized population. In some cases, birth rates drop below the replacement level, potentially causing the population to shrink over time.

Education within the framework of demographic transition

The creation of any educational institution is fundamentally guided by the need to meet clearly defined goals and objectives (Obona et al., 2024). To achieve these, Nigeria's *National Policy on Education* (2013) advocates for a curriculum that fosters critical thinking, creativity, and effective problem-solving abilities. Education plays a central role in the demographic transition process. It significantly shapes fertility patterns, the timing of marriage, and the movement of families across social and economic classes. As countries move from a phase of high birth and death rates to one of lower fertility and mortality, educational advancement especially for women becomes a crucial factor influencing reproductive choices.

In the early phases of demographic transition, limited access to education often aligns with higher fertility rates and early childbearing. However, as educational access expands, particularly for girls and young women, fertility rates typically decline, and the age of marriage and first childbirth tends to rise. This change can be linked to several factors, including women's increased participation in the workforce, better access to reproductive health services, and evolving personal and societal aspirations.

Han (2024) notes that higher levels of education among women are strongly associated with later marriages and fewer children. These changes don't just impact individuals—they carry forward across generations. Educated mothers are more likely to invest in their children's education and well-being, creating a cycle of upward mobility and improved life outcomes. From an evolutionary perspective, Snopkowski and Kaplan (2018) suggest that as education levels rise, reproductive strategies evolve. Rather than focusing on having many children,



individuals begin to prioritize investing more resources in fewer offspring—reflecting a shift toward "quality over quantity" in child-rearing. Education, in this context, becomes a powerful agent for adapting reproductive behavior to modern social and environmental conditions.

In essence, education is the structured process of acquiring knowledge, skills, values, and habits, typically through formal schooling but also through informal experiences, observation, and self-directed learning. It prepares individuals not only for higher education but also for successful careers and meaningful participation in society (Obona et al., 2024). As noted by UNESCO (2021), *"Education is a fundamental human right and essential for the exercise of all other human rights. It promotes individual freedom and empowerment and yields important development benefits."* This view captures the profound influence education has not just on individuals but on the broader trajectory of population development. By equipping people with knowledge, choices, and opportunities, education helps steer reproductive behaviors toward population stability and supports economic and social development. In Sub-Saharan Africa, World Bank (2019) data shows that countries with higher rates of female secondary school enrollment consistently report lower fertility rates. This suggests that investing in girls' education leads to improved health outcomes, stronger economies, and more sustainable population growth.

Education as a catalyst for demographic transition: A multidimensional perspective

Education plays a pivotal role in driving demographic transition, acting through multiple interrelated dimensions. In the Nigerian context, where demographic shifts present both challenges and opportunities, education emerges as a transformative force shaping health behaviors, economic participation, gender roles, cultural values, and political engagement.

i. Health perspective

Education significantly influences health outcomes, particularly in relation to fertility behavior, child survival, and reproductive decision-making. It enhances health literacy by promoting awareness of hygiene practices, nutrition, and the use of healthcare services. In turn, this leads to reduced child and maternal mortality, longer life expectancy, and more informed reproductive choices. These factors contribute to smaller, healthier families and align with broader demographic transition goals. In Nigeria, education functions as a catalyst for the adoption of healthier lifestyles, particularly in urban and semi-urban areas. Adesola et al. (2024) highlight that individuals with higher educational attainment are more likely to access preventive healthcare, engage in positive health behaviors, and effectively manage chronic conditions. However, systemic inequities—such as poor infrastructure and limited access to quality education in rural and underserved communities—continue to restrict these health benefits.

Maternal education, in particular, has a profound effect on family health. Research by Adewusi and Nwokocha (2018), using data from the 2013 Nigerian Demographic and Health Survey, shows that child mortality is markedly higher among children of mothers with no formal education. Educated mothers are more likely to seek antenatal care, ensure complete immunization, and adopt appropriate feeding and health-seeking behaviors. These practices significantly improve child survival and household well-being, affirming that promoting female education is not only a gender equity issue but also a vital public health strategy.



ii. Economic perspective

Education is a key instrument for developing human capital and advancing national growth. It is central to national progress development (Nwokonko, 2024; Ayang et al., 2025; Uzu et al., 2025; Odoh et al., 2025). As fertility rates decline and the working-age population grows, nations such as Nigeria are positioned to benefit from a temporary window of accelerated economic growth made possible by a favorable age structure. However, realizing this potential depends heavily on the educational quality and skill level of the population.

Education increases employability, adaptability, and productivity, enabling a shift from traditional, low-skilled sectors to more diversified and knowledge-based economies (Ngene et al., 2024). These goals can be realized through effective administration (Obona et al., 2025). Young (2019) argues that educational improvements have a more direct and measurable impact on Nigeria's economic development than demographic structure alone. Furthermore, Akokuwebe (2014) notes that female education delays early marriage and childbearing, expands women's economic opportunities, and fosters a more skilled and gender-inclusive labor force.

The inclusiveness and quality of education are also crucial. Equity and inclusion are important parts of education that help build a fair and inclusive society (Difoni et al., 2024). The International Monetary Fund (2019) estimates that narrowing gender gaps in education and expanding equitable access to learning could increase Nigeria's GDP by up to 5% within a generation. Educated citizens contribute more robustly to national productivity, but persistent challenges such as inadequate public investment, poor infrastructure, and regional disparities continue to limit progress. Strategic reforms that prioritize inclusive, high-quality education are essential for converting Nigeria's demographic trends into long-term economic gains.

iii. Gender perspective

Education plays a transformative role in reshaping gender dynamics and promoting equitable demographic outcomes. In Nigeria, disparities in educational access particularly for girls and women have long contributed to early marriage, high fertility, and limited participation in public life. However, expanding access to female education has been shown to delay marriage and childbearing, increase contraceptive use, and improve maternal and child health outcomes. Olowolafe et al. (2025) found that Nigerian women with higher levels of education are more likely to utilize family planning services and exercise autonomy over reproductive decisions. This directly supports the goals of demographic transition by reducing fertility rates and improving overall family well-being.

Education also enhances women's agency, enabling them to participate more fully in economic, political, and civic life. According to Adepoju et al. (2020), educated women are better equipped to advocate for their rights, challenge restrictive cultural norms, and contribute meaningfully to national development. Thus, education serves as a dual-purpose tool: it empowers women individually while also promoting gender-sensitive demographic and developmental outcomes. Investments in female education yield intergenerational benefits that extend far beyond the classroom.



iv. Cultural perspective

Education also serves as an engine of cultural transformation, challenging traditional norms that perpetuate high fertility and gender inequality. In many Nigerian communities, cultural expectations regarding large families, early marriage, and male dominance in household decision-making remain prevalent. Education provides individuals with the cognitive tools to critically assess these norms and adopt more progressive values aligned with sustainable demographic behaviors. Nakpodia (2019) describes education as a medium through which cultural beliefs are transmitted and reinterpreted. By promoting rational thinking and exposing learners to diverse worldviews, education reduces the reliance on children for labor or old-age support and encourages smaller family sizes. Curricula that incorporate cultural awareness and tolerance also help cultivate inclusive attitudes that support lower fertility preferences and healthier lifestyles.

In a multicultural society like Nigeria, education fosters mutual understanding and reduces ethnic and religious tensions. Obiakor (2024) asserts that multicultural education strengthens social cohesion and reduces ethnocentrism. By integrating culturally diverse narratives into the educational system, learners are equipped to navigate complex societal dynamics, thereby promoting inclusive development and reproductive equity. Education, therefore, becomes a key mechanism for both preserving cultural identity and facilitating its constructive evolution in response to demographic needs.

v. Political perspective

Lastly, education underpins the political dimensions of demographic transition by nurturing a more informed, active, and responsible citizenry. Educated individuals are more likely to understand political structures, demand accountability, and support evidence-based policies on healthcare, education, and family planning—all critical components of population management. As Nwaokugha and Anagwo (2018) explain, education enhances political literacy, enabling citizens to participate meaningfully in democratic processes. This civic engagement is essential for ensuring that demographic-related policies reflect public needs and support equitable development. In Nigeria, civic education programs in tertiary institutions have significantly increased students' awareness of governance, rights, and responsibilities. Moreover, education empowers historically marginalized populations particularly women and youth to engage in political life. Oluwatusin and Daisi (2017) note that exposure to civic education not only boosts political participation but also contributes to more representative and inclusive policymaking. By supporting transparency, equity, and democratic governance, education helps create the institutional conditions necessary for successful demographic transition.

Emerging challenges in education and demographic transition

- i. **educational inequality and regional disparities:** One of the most pressing challenges is the persistent inequality in access to quality education across Nigeria's regions. Rural communities, especially in the North-East and North-West, continue to lag behind in school enrollment, infrastructure, and teacher availability largely due to poor policy formulation and implementation. These disparities limit the potential of education to influence demographic transition uniformly across the country.



- ii. **Gender disparities:** Despite progress, many girls particularly in impoverished communities still face barriers to education due to early marriage, domestic responsibilities, and sociocultural beliefs. These factors hinder women's educational attainment, reproductive autonomy, and ultimately, their role in driving demographic change.
- iii. **Underfunding and poor infrastructure:** Chronic underinvestment in the education sector has led to overcrowded classrooms, outdated learning materials, and poor teacher welfare. These conditions undermine learning outcomes and the transformative potential of education on health, economic, and political awareness.
- iv. **Outdated curriculum and pedagogy:** Many Nigerian schools especially at the primary and secondary levels continue to use curricula that are misaligned with contemporary societal and labor market needs. Without a strong emphasis on critical thinking, digital literacy, and reproductive health education, students are ill-prepared to respond to demographic realities.
- v. **Security challenges:** Rising insecurity, including banditry and insurgency in most parts of the country, has led to the regular closure of schools. This disrupts smooth transmission of education, especially for vulnerable populations, and also stalls progress toward demographic transformation.

Emerging opportunities

- i. **Policy reforms:** Recent government initiatives, such as the revised National Policy on Education and the Safe Schools Initiative, offer promising frameworks to strengthen education delivery and access. These policies emphasize inclusive education, gender equality, and skills development that are critical for demographic management.
- ii. **Technological advancement:** The growth of digital technology presents opportunities to bridge educational gaps through e-learning platforms, virtual classrooms, and mobile-based literacy programs. These tools can reach underserved populations and enhance education's role in shaping fertility behavior and economic participation.
- iii. **Youth development:** Nigeria's large and youthful population, if well-educated, can be turned into a powerful demographic dividend. This cohort represents a potential workforce that, with the right investments in education and skills development, could drive innovation, productivity, and national growth.
- iv. **Partnerships with NGOs and donors:** Collaboration with international agencies such as UNICEF, UNESCO, and the World Bank can lead to targeted interventions in areas like girls' education, health education, and teacher training. These partnerships offer scalable solutions to enhance the demographic impact of education.
- v. **Increased advocacy:** Growing awareness and advocacy by civil society organizations can help to brighten the link between education and demographic issues such as child marriage, reproductive health, and gender empowerment. These efforts will push for inclusive, rights-based approaches to education and population policy.

Conclusion

This study has taken a close look at how education influences demographic change, especially in Nigeria, where population dynamics present both challenges and opportunities. The study highlights that when education is made accessible, fair, and high in quality, it becomes a



powerful force in shaping key aspects of life such as lowering fertility rates, improving child and maternal health, boosting economic productivity, promoting gender equality, and shifting social attitudes. For instance, health education helps people make better decisions about reproduction and disease prevention, while learning practical skills opens up economic opportunities and supports thoughtful family planning. Educating girls and women, in particular, plays a crucial role in delaying early marriages and reducing high birth rates, setting the stage for progress across generations.

It has become clear that demographic change is not just about numbers or economics, but more about people, their access to knowledge, their rights, and the systems that support them. For Nigeria to truly benefit from its growing population, it needs to commit to meaningful reforms in education that ensure no one is left behind especially girls and those in rural areas. Education must go hand in hand with efforts in public health, gender equality, and economic development to create lasting change. Therefore, empowering people through education is one of the surest ways the government can build a stable, prosperous, and sustainable future for all.

Recommendations

- i. Schools should focus more on teaching students about hygiene, nutrition, reproductive health, and disease prevention. At the same time, effort must be made to ensure that girls have equal access to education, especially in areas where they are still left behind. By offering scholarships, mentorship, and health services, young girls can be empowered to reduce maternal and child deaths, and build healthier communities.
- ii. To reduce poverty and boost economic growth, vocational and technical education needs to be more accessible and aligned with today's job market. This will equip young people with practical, employable skills needed to secure better jobs and help support stronger, more stable families.
- iii. Cultural values should be taught in schools to help students identify and shun outdated practices that limit gender roles and affect family life. Civic education should focus on encouraging all citizens especially women, youth, and those in rural communities to actively participate in shaping a fairer and more inclusive society.



REFERENCES

- Adesola, R. O., Opuni, E., Idris, I., Okesanya, O. J., Igwe, O., Abdulazeez, M. D., & Lucero-Prisno, D. E. (2024). Navigating Nigeria's health landscape: Population growth and its health implications. *Health Services Insights*, 17, 11786302241250211. <https://doi.org/10.1177/11786302241250211SAGE Journals>
- Adewusi, A. O., & Nwokocha, E. E. (2018). Maternal education and child mortality in Nigeria. *The Nigerian Journal of Sociology and Anthropology*, 16(1), 111–130. [https://doi.org/10.36108/NJSA/8102/61\(0170\)](https://doi.org/10.36108/NJSA/8102/61(0170))
- Akokuwebe, M. E. (2014). Demographic transition and rural development in Nigeria. *Academia.edu*.
- Adepoju, O. A., Ibhawoh, B., & Fayomi, O. O. (2020). Educational disparity in Nigeria: A gendered analysis. *Journal of South African Business Research*.
- Ayang, H. A., Nwokonko, R. N., Ikpali, M. A., Ngene, A. N., & Obona, E. E. (2025). Correlation Between School-Based Variables And Teachers' Service Delivery In Secondary Schools: An Empirical Study Of Calabar South, Cross River State. *Multi-Disciplinary Research and Development Journals Int'l*, 7(1), 214–230.
- Dai, W. (2016). Demographic transition. In R. A. Scott & S. M. Kosslyn (Eds.), *Emerging Trends in the Social and Behavioral Sciences* (pp. 1–15). Wiley. <https://doi.org/10.1002/9781118924396.wbiea1932Wiley Online Library>
- Difoni, N. N., Obona, E. E., Sampson, A. M. & Odey, D. A. (2024). Promoting Equity and Inclusion for Students with Disabilities in Public Secondary Schools in Nigeria: The Decisive Role of School Administrators. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 12 (1).
- Egbo, C. N., Obona, E. E. & Andeshi, W. A. (2025). Impact Of Working Conditions and Fringe Benefits on Job Performance of Teachers. *Kashere Journal of Education* 2024, 7(2):344-360.
- Federal Republic of Nigeria 2013. National Policy on Education, Lagos.
- Han, X. (2024). Demographic pathways and intergenerational effects of changes in women's education: Evidence from China. *Journal of Asian Population Studies*, 10(2), 123–145. <https://doi.org/10.1177/2057150X241246125SAGE Journals>
- Harper, S. (2018). The demographic transition—centrepiece of demography. In *Demography: A Very Short Introduction* (pp. 55–70). Oxford University Press. <https://doi.org/10.1093/actrade/9780198725732.003.0006Oxford Academic>
- International Monetary Fund. (2019, June 24). Growing through education in Nigeria.
- Iyiegbuniwe, R. N., Okoroafor, B. O., & Obona, E. E. (2025). Assessing the nexus between school management variables and teacher's job performance in special education centres in Cross River State. *International Journal of Social Science Exceptional Research*, 4(3), 141–146.
- Lee, R. D. (2018). Demographic transition. In S. N. Durlauf & L. E. Blume (Eds.), *The New Palgrave Dictionary of Economics* (pp. 2725–2733). Palgrave Macmillan. https://doi.org/10.1057/978-1-349-95189-5_320SpringerLink
- Madukwe, E. C., Dede, D., & Obona, E. E. (2024). Exploring the interplay of staff supervision, security management, and lecturers' service delivery in universities. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 13(3), 229.



- Nakpodia, E. D. (2019). Culture and curriculum development in Nigerian schools. *International Scholars Journals*.
- Ngene, A. N., Oweikpodor, V. G., & Obona, E. E. (2025). Management of entrepreneurship education programme as determinant of skills acquisition and job creation among senior secondary school students. *Unizik Journal of Educational Research, Science and Vocational Studies (UJERSVOCS)*, 1(2), 56–66.
- Nwaokugha, D. O., & Anagwo, E. C. (2018). Education as an instrument for promoting and sustaining political stability in Nigeria. *British Journal of Education*, 6(12), 37–49. Retrieved from <https://ejournals.org/wp-content/uploads/Education-as-an-Instrument-for-Promoting-and-Sustaining-Political-Stability-in-Nigeria.pdf>
- Nwokonko, R. N. (2024). Management of educational resources and secondary school goals attainment in Ogbaru Local Government Area, Anambra State, Nigeria. *Unizik Journal of Educational Research and Policy Studies*, 18(3), 384–394.
- Obiakor, F. E. (2024). Multicultural education in Nigeria. *Daedalus*, 153(4), 221–233. https://doi.org/10.1162/daed_a_02113MIT_Direct+1American_Academy_of_Arts_and_Sciences+1
- Obona, E. E., Okonkwo, C. O., & Ejom, S. I. (2024). Management of educational resource wastage as a predictor of administrative effectiveness in public universities. *Scholarly Journal of Contemporary Issues in Education (SJCIE)*, 5(1), 127.
- Obona, E. E., Hassan, I. K. & Willie, T. B. (2024). Discipline Management Techniques and Teachers' Job Effectiveness in Public Secondary Schools in Ikom Local Government Area, Cross River State, Nigeria. *Unizik Journal of Educational Research and Policy Studies*, 18 (2).
- Obona, E. E. Udokpan, D. M. Bepeh, M. F. (2024). Innovative Administrative Strategies and Job Commitment Among Teachers in Public Secondary Schools in Calabar Municipality, Cross River State, Nigeria. *Trends in Educational Studies Journal (TRESJ)* 16(1).
- Obona, E. E., Uguba, C. O., Otuu, C. O., & Ejom, S. I. (2025). The nexus between principals' social intelligence skills and administrative effectiveness in public secondary schools. *International Journal of Arts Management and Professional Studies*, 5(1), 187.
- Odoh, J. U., Iyiegbuniwe, R. N., Offor, M. N., & Obona, E. E. (2025). Application of web-based resources and academic staff job effectiveness in public universities. *International Journal of Education, Research and Scientific Development*, 8(1).
- Olowolafe, T. A., Adebowale, A. S., Fagbamigbe, A. F., Onwusaka, O. C., Aderinto, N., Olawade, D. B., & Wada, O. Z. (2025). Decomposing the effect of women's educational status on fertility across the six geo-political zones in Nigeria: 2003–2018. *BMC Women's Health*, 25, 107.
- Oluwatusin, A. O., & Daisi, S. A. (2017). Citizenship education and political participation among Nigerian students: A case study of The Federal Polytechnic, Ado-Ekiti. *IOSR Journal of Humanities and Social Science*, 22(8), 54–59.
- Saito, O. (2018). Rethinking the demographic transition paradigm: With special focus on the phase of mortality decline. *Transactions of the Japan Academy*, 73(1), 1–17. https://doi.org/10.2183/tja.73.1_1J-STAGE
- Population Reference Bureau. (2018). *2018 World Population Data Sheet*. Retrieved from <https://interactives.prb.org/wpds/2018/index.html>



- Snopkowski, K., & Kaplan, H. (2018). Demographic transition. In R. A. Scott & S. M. Kosslyn (Eds.), *Emerging Trends in the Social and Behavioral Sciences* (pp. 1–15). Wiley. <https://doi.org/10.1002/9781118924396.wbiea1932>
- Population Education. (2018). *What is the Demographic Transition Model?* Retrieved from <https://populationeducation.org/what-demographic-transition-model/>
- UNESCO. (2021). *Right to education*. United Nations Educational, Scientific and Cultural Organization. <https://www.unesco.org/en/right-to-education>
- United Nations Development Programme. (2018, December 14). *Managing Demographic Transition in Ethiopia: where to focus?* Retrieved from <https://www.undp.org/ethiopia/blog/managing-demographic-transition-ethiopia-where-focus>
- Uzu, F. N., Iyiegbuniwe, R. N., Agara, F. A., Obona, E. E., & Ogazi, A. O. (2025). An empirical analysis of principals' emotional intelligence and teachers' job satisfaction in secondary schools in Calabar Education Zone, Cross River State, Nigeria. *International Academic Research Journals of Education and Digital Inclusion*, 1(2), 96–106.
- World Bank. (2019). *Fertility rate, total (births per woman)*. The World Bank Data. <https://data.worldbank.org/indicator/SP.DYN.TFRT.IN>
- Young, A. O. (2019). Economic growth and demographic dividend nexus in Nigeria: A vector autoregressive (VAR) approach. *Asian Social Science*, 15(2), 37–49.