

# Understanding Early Childhood Development in Nigeria

A Country Report on Early Childhood Development using the General Household Survey-Panel (Wave 5) 2023/2024



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# Table of Contents

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<b>Acknowledgments</b> .....	<b>v</b>
<b>List of Abbreviations</b> .....	<b>vi</b>
<b>Executive Summary</b> .....	<b>vii</b>
<b>Introduction</b> .....	<b>1</b>
<b>1. Measuring Early Childhood Development</b> .....	<b>3</b>
<b>2. Implementing the AIM-ECD CR in a nationally representative survey in Nigeria</b> .....	<b>7</b>
2.1. The General Household Survey – Panel (GHS-Panel).....	7
2.2. Nigeria’s Context.....	8
<b>3. Early Childhood Development in Nigeria</b> .....	<b>13</b>
<b>4. Key takeaways and policy implications</b> .....	<b>29</b>
<b>References</b> .....	<b>31</b>
<b>Appendix</b> .....	<b>33</b>
A.1. Implementation of ECD Module in National Longitudinal Phone Survey.....	33
A.2. Tables.....	35

## List of Figures and Tables

<b>Figure 1</b> • Share of population by age groups .....	8
<b>Figure 2</b> • Total and Youth Dependency Ratio .....	9
<b>Figure 3</b> • Average household size (Number of household members).....	9
<b>Figure 4</b> • Mean Years of Education (Individuals ages three years or older) .....	10
<b>Figure 5</b> • Child Anthropometry (Share of children ages six to 59 months) .....	11
<b>Figure 6</b> • Child Anthropometry during 2018/19 (wave 4) and 2023/24 (wave 5) (Share of children ages six to 59 months)....	12
<b>Figure 7</b> • ECD Outcomes by domains (Share of children ages four to six years).....	14
<b>Figure 8</b> • Difference in the share of girls vs. boys able to perform specific tasks of ECD (Share of children aged 4-6 years old) .....	15
<b>Figure 9</b> • Urban-Rural Areas Differences for ECD outcomes (Share of children aged 4-6 years).....	16
<b>Figure 10</b> • Number of items with affirmative response by sector (Share of children ages four to six years) .....	17
<b>Figure 11</b> • Share of children that can write a simple word, besides his/her name (%).....	18
<b>Figure 12</b> • School/daycare attendance and literacy development by zone and age of children (Share of children ages four to six years) .....	19
<b>Figure 13</b> • School Attendance Effects on ECD (Share of children ages four to six years).....	20
<b>Figure 14</b> • School Attendance by region (Share of children ages four to six years) .....	21
<b>Figure 15</b> • Type of Organization that runs the school (Share of children ages four to six years).....	22
<b>Figure 16</b> • Mother's level of education influence on the share of children able to complete tasks (Share of children ages four to six years) .....	23
<b>Figure 17</b> • ECD by Book-Storybook availability (Share of children ages four to six years).....	24
<b>Figure 18</b> • ECD by Age of Children and School Attendance (Share of children ages four to six years).....	25
<b>Figure 19</b> • ECD by Age at School Entry (as share of 6 years-old children) .....	26
<b>Figure 20</b> • ECD by stunting status (Share of children 4 years old) .....	27
<b>Table 1</b> • List of 20 Anchor Items for Caregiver Report Questionnaire.....	5

# Acknowledgments

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To support evidence-based policymaking and programming, the National Bureau of Statistics (NBS), in collaboration with the World Bank, has produced a comprehensive country report on Early Childhood Development (ECD). The report draws on data from the 2023/2024 General Household Survey – Panel (GHS-Panel) Wave 5 and offers a detailed snapshot of ECD among Nigerian households with children aged 4 to 6 years.

This achievement was made possible through the inclusion of the Anchor Items for the Measurement of Early Childhood Development (AIM-ECD) Caregiver Report module in the GHS-Panel. The integration of this module was generously supported by the World Bank's Early Learning Partnership (ELP) trust fund. The unwavering commitment to the success of this project from the ELP team, strategic guidance, efficient support, and timely resources were essential in ensuring a high-quality data collection exercise.

The GHS-Panel is Nigeria's only nationally representative longitudinal survey. It is a powerful tool for understanding the dynamics of households by capturing changes in their socio-economic conditions over time. The survey is the result of a successful partnership between Nigeria's National Bureau of Statistics (NBS) and the World Bank Living Standards Measurement Study (LSMS) Team.

The successful implementation of the GHS-Panel and the inclusion of the AIM-ECD Caregiver Report are well acknowledged under the leadership of Prince Adeyemi Adeniran, Statistician-General of the Federation and Chief Executive Officer of NBS, and the tireless efforts of his team including Mr. Biyi Fafunmi, Mr. Akinloye Elutade, Ms. Abigail Abosede Solademi, among others.

The World Bank LSMS team provided technical support to the entire survey operation and collaborated with NBS teams at each stage of the survey. The analysis in this report was prepared by a team from the World Bank's, Living Standards Measurement Unit. The team included: Gbemisola Oseni (Program Manager), Akiko Sagesaka (Senior Statistician), Ivette Contreras (Economist), Alejandro Gasteazoro Franco (Consultant), Jessica González Mejía (Consultant) and Diana Contreras Arias (Consultant). The GHS-Panel Wave 5 was funded by the Bill and Melinda Gates Foundation (BMGF). Editorial support was provided by Tola Jordan, and the report layout was designed by Studio Pietro Bartoleschi.

## List of Abbreviations

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<b>AIM-ECD</b>	Anchor Items for the Measurement of Early Childhood Development
<b>BMGF</b>	Bill and Melinda Gates Foundation
<b>CR</b>	Caregiver Report
<b>ECE</b>	Early Childhood Education
<b>ECDI2030</b>	Early Childhood Development Index 2030
<b>EF&amp;SE</b>	Executive functioning & social-emotional
<b>GHS-Panel</b>	Nigeria General Household Survey - Panel
<b>IQ</b>	Intelligence Quotient
<b>NBS</b>	Nigeria National Bureau of Statistics
<b>NGO</b>	Non-governmental organizations
<b>SDG</b>	Sustainable Development Goals
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNICEF</b>	United Nations Children's Fund
<b>UN</b>	United Nations
<b>WHO</b>	The World Health Organization
<b>WDR</b>	World Development Report

# Executive Summary

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**This report explores the importance of measuring early childhood development (ECD) in Nigeria using national survey tools designed to capture essential data on child development.** The report utilizes the Anchor Items for the Measurement of Early Childhood Development (AIM-ECD) Caregiver Report (CR) methodology, developed by the World Bank, to assess literacy, numeracy, executive functioning, and the socioemotional development of children, 4 to 6 years old, offering both international comparability and valuable local-context insights to guide policymakers. It then presents findings using a new survey module conducted in Nigeria under the General Household Survey – Panel 2023-2024 (GHS-Panel), which collects crucial data on early childhood development and assesses the four key domains using 20 items which inform evidence-based policy decisions.

**Nigeria faces significant regional disparities in demographic and development indicators.** The North West zone has the highest dependency ratio at 1.3, while the South West zone has the lowest at 0.7. Educational attainment also varies, with the national average at 5.8 years. Southern zones outperform the rest, especially the South South (8.1 years), while northern zones show lower averages, particularly the North East and North West with 4.0 and 4.5 years, respectively. School enrollment and attendance rates reflect this divide — over 90% of individuals in the south have attended some school, compared to just 61% in the North East. Malnutrition remains a critical challenge, with 42.7% of males and 38.5% of females affected by stunting. The North East records the highest stunting rates, while the Southwest has the highest wasting rates. Rural males are more likely to be underweight, whereas urban females are more affected by wasting. In this context, ECD is analyzed, highlighting how disparities in education, nutrition, and demographic structure shape developmental outcomes in young children.

**The report reveals interesting findings in different domains: early literacy, numeracy, executive functioning and social-emotional competencies.** Literacy is the most challenging ECD domain, with only 24.1% of children aged 4-6 able to write a simple word beyond their name. In contrast, the best-performing skill is letter recognition, with 45.5% of children able to name at least ten letters. A larger percentage of children are able to successfully complete tasks in the numeracy domain compared to the literacy domain. In the numeracy domain, the most challenging task for children is identifying the larger of two one-digit numbers, with only 39% able to do so. In contrast, the highest success rate is seen in the ability to count from 1 to 10, which 63.9% of children can accomplish. In the social-emotional domain all indicators were achieved by at least half of the children. The strongest skill is getting along with others when playing (84.6% of children). The Executive Functioning domain shows variability in children's abilities. The most challenging task is the ability to plan ahead, with only 20.4% of children able to do so. Early gender disparities are modest at an early age but are significant at the regional level.

**Significant disparities are identified between urban and rural areas, as well as across different regions.** Children in urban areas consistently outperform their rural counterparts across all assessed tasks, with the largest gap observed in literacy. Regional variations are also evident in the number of ECD tasks successfully completed. For example, 74% of children in urban areas can complete 11 or more tasks, compared to only 42% in rural areas. In the literacy domain, the share of children in urban areas who can complete tasks is 27.1 to 34.1 percentage points higher than in rural areas. Meanwhile, the numeracy domain exhibits even greater variability, with urban children outperforming their rural peers by 12.6 to 34.5 percentage points, depending on the specific task.

**School enrollment and attendance play a vital role in shaping developmental outcomes.** Another key insight from the report is that while ECD outcomes generally improve with age, school attendance has a stronger influence than age alone. For instance, six-year-olds tend to perform better on ECD assessments than four-year-olds. However, four-year-olds who have attended school outperform six-year-olds who have not, across all tasks. Similarly, early enrollment in primary school is associated with better outcomes, particularly in the literacy domain.

**Other contributing factors also play a role in driving differentiated progress in early childhood development.** For example, the majority of children in pre-primary education attend private schools, and they tend to perform better on the ECD items than those enrolled in other types of schools. Additionally, the mothers' level of education and early school entry are key factors in children's academic success. The share of children able to write a simple word rises from 9.3% in households where the mother has no education to 46.7% and 74.8% in

households where the mother has a secondary education and a tertiary education, respectively. Another interesting finding is that stunting significantly affects the cognitive and learning abilities of children, particularly in literacy and numeracy.

**Report insights are crucial for shaping effective, data-driven early childhood development policies in Nigeria.** For instance, strengthening ECD policies requires the assessment of the different developmental outcomes. Addressing developmental gaps and regional disparities calls for context-specific educational strategies. Investing in early childhood education can provide a strong foundation for learning, and expanding caregiver training and optimizing existing educational infrastructure can enhance school enrollment, attendance, and associated developmental benefits across key domains. Additionally, targeted interventions to address nutritional and developmental challenges are essential to support overall child well-being and long-term growth.





# Introduction

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**The importance of early childhood development cannot be overstated, as these formative years lay the foundation for a child's future well-being and development** (Britto et al., 2013; Fernald et al., 2017; Pushparatnam et al., 2021; Bendini & Devercelli, 2022). Evidence from a range of disciplines confirms that a child's earliest years are a critical time to invest in building human capital. The returns to investments in the early years include improved cognitive skills, reduced repetition and drop-out rates, and the development of the social-emotional competencies needed to succeed in the workplace and in adulthood (Pushparatnam et al., 2021).

**A comprehensive understanding and effective measurement of ECD is essential for developing policies and interventions that support the holistic growth of young children.** The objective of this report is to present evidence on the progress of ECD in Nigeria and its associated challenges, emphasizing the importance of innovative tools within national surveys to capture data on child development. The report also highlights the relevance of generating effective data to support policymaking, while taking into consideration, regional disparities, associated factors, and the country's specific context.

**This report draws on key insights from the General Household Survey – Panel 2023-2024 (GHS-Panel), using the Anchor Items for the Measurement of Early Childhood Development (AIM-ECD) Caregiver Report, that was included as a survey module, to measure early childhood development outcomes for children, aged four to six.** This is particularly important given that research indicates gender differences are small in early childhood, but become more pronounced over

time (Gebre et al., 2023). Moreover, gaining an early understanding of the impact of regional disparities and socioeconomic conditions on child development is essential for effective policy implementation.

**The methodology for the analysis considered the identification of domains related to foundational learning, including early literacy, early numeracy, executive functioning, and socio-emotional competencies, along with their associated tasks, based on the AIM-ECD Caregiver Report module.** Additionally, other relevant factors that impact childhood development outcomes were included in the analysis, such as early school entry, the mother's level of education and the type of school children attend.

**We found that significant disparities in early childhood development outcomes exist between urban and rural areas, with urban children consistently outperforming their rural counterparts, particularly in literacy and numeracy.** School enrollment and attendance play a crucial role, often outweighing the impact of age, as younger children with schooling experience perform better than older children without it. Additionally, factors such as attending private pre-primary education and the mother's level of education contribute to better ECD performance, thereby highlighting the importance of early educational opportunities and parental influence in shaping developmental outcomes.

The remainder of this report is structured into four sections. The first chapter underscores the importance of measuring ECD and the established guidelines. The second explores the implementation of a new tool to assess ECD in Nigeria, leveraging the GHS – Panel with

the incorporation of a childhood development module, and provides a brief description of the Nigeria's context. The third chapter presents the key findings of ECD in Nigeria, tracking progress across specific domains, with

a particular focus on gender and regional disparities and other important factors. Finally, the fourth chapter provides conclusions and policy recommendations to address challenges in ECD.

# Measuring Early Childhood Development

## 1

### Key findings

- Reliable data on early childhood development helps with identifying key areas for intervention and tracking progress. However, many countries face data gaps, making it difficult to assess the impact of early interventions.
- The World Bank's AIM-ECD CR tool provides a cost-effective method for monitoring child development, offering both international comparability and valuable local-context insights to guide policymakers.
- AIM-ECD assesses essential early childhood development (ECD) outcomes in children aged 4 to 6, focusing on key areas such as early literacy, early numeracy, executive functioning, and social-emotional development, including 20 Anchor Items for Caregiver Report Questionnaire.

**The early years of a child's life are crucial for fostering the development necessary to achieve their full potential.** Early Childhood Development (ECD) is a holistic concept that refers to the physical, cognitive, socio-emotional, and linguistic development of young children until the time they transition to primary school (Naudeau & Hasan, 2017). The quality of their home environment and social interactions are key to this process. Acquiring foundational skills in early childhood is essential for learning, and robust early childhood development can launch children onto higher learning trajectories (World Bank, 2018). The early years are key to development, setting the stage for lifelong skill growth and productivity (Cunha & Heckman, 2007).

**Early childhood interventions play a vital role in fostering optimal developmental trajectories.** Many early childhood interventions are implemented because they are intended to affect children's development later in life (Fernald et al., 2017). Investment in high quality programs

during the early years of a child's life and comprehensive early childhood interventions can significantly improve learning ability, particularly for economically disadvantaged children. Nonetheless, governments do not invest sufficiently in early childhood programs due to multiple factors, such as an inadequate understanding of the high returns from early interventions, budget constraints, and the challenges of implementing comprehensive early childhood services (World Bank, 2018).

**Measuring Early Childhood Development (ECD) is key for policymakers in designing more effective and efficient policies.** Measuring ECD can help policymakers identify the key domains that need to be supported. Policymakers need reliable information to evaluate progress, identify key areas of concern and develop effective interventions. It is particularly important for policymakers to ensure that early interventions are effective and efficient at reducing lifetime inequality, as a lack of childhood development is difficult to reverse

(Heckman, 2008). However, many countries struggle from a lack of or poor-quality data, making it difficult to assess progress effectively.

**The World Bank developed the Anchor Items for the Measurement of Early Childhood Development (AIM-ECD), a robust tool for assessing ECD.** AIM-ECD captures child development using two tools, a direct assessment (DA) of children and a caregiver report (CR) questionnaire. The AIM-ECD CR emphasizes domains covering foundational learning: early literacy, early numeracy, executive functioning and social-emotional competencies.

**Developing early literacy skills are essential because they lay the foundation for acquiring additional knowledge and skills.** Literacy development is a continuum that begins at birth and continues until children are proficient readers and writers (UNESCO et al., 2017). Early reading skills are stronger predictors of future reading achievement compared to math achievement (Duncan, et al., 2007). Although literacy skills at school-entry age is largely correlated with family background, other factors could play a role. For example, positive interactions support learning. Asking questions and elaborating on conversations with children are more effective than giving commands which inhibit curiosity. (World Bank, 2015a).

**Numeracy, on the other hand, is an important predictor of later educational achievements, but significant challenges remain.** Studies suggest that mathematics is a stronger predictor of various educational outcomes than reading skills (Duncan et al., 2007; UNICEF, 2023a), however, developing mathematics and numeracy skills remains challenging in many contexts. International analyses indicate that while negative cultural attitudes toward mathematics persist in certain regions, including Sub-Saharan Africa, this is not universal, as evidenced by the success of East Asian countries (Bethell, 2016). Despite the complexities of learning mathematics, which involve a “special language,” opportunities exist to promote these skills as they are integral to everyday activities, such as counting (UNESCO et al., 2017). Incorporating play into the learning process can be instrumental in developing these skills at an early age (UNICEF, 2018).

**The executive functioning and social-emotional domains assess skills related to cognitive processes that support learning and social interactions, which may indicate the ability to engage in school.** More specifically, the executive function domain relates to how children manage cognitive processes that facilitate learning, including sustained attention, working memory, the ability to follow directions, and self-regulation (UNICEF, 2023a). The social-emotional domain focuses on children’s abilities to interact with others and behave in socially and culturally appropriate ways, fostering school engagement and achievement (UNESCO et al., 2017).

**These domains play a role in aligning a child’s interests and sense of self with a focus on learning.** The items that measure executive functioning and socioemotional competencies capture the child’s working memory, inhibitory control, social cognition, and emotional self-knowledge (Pushparatnam et al., 2021). The development of these skills mostly occurs during preschool and is influenced by factors such as parenting and early health and nutrition. These domains are relevant across cultures, though their manifestations may vary (UNESCO et al., 2017). Additionally, both executive functioning and socioemotional competencies are central to the learning process, and contribute to literacy and numeracy development (UNICEF, 2023a).

**The AIM-ECD CR module evaluates early childhood development outcomes through a brief 3-to-5-minute interview with caregivers at home.** This is designed for integration into household surveys; however, it is suitable for population-level studies. The 20 CR items cover literacy, numeracy, executive functioning, and socioemotional competencies expected as developmental milestones for children in the age range of 4 to 6 years old (see Table 1 for the list of the 20 items included in the AIM-ECD CR). For comprehensive ECD monitoring, these items must be paired with household socio-demographic indicators. Launched in 2021, AIM-ECD has been implemented in over 10 countries (World Bank, 2022a).<sup>1</sup>

**The AIM-ECD CR allows for an economical way to track child development, while also allowing international comparability and valuable local-context**

<sup>1</sup> The countries where the CR has been implemented as a stand-alone or with other assessment tools are Liberia, Malawi, Pakistan, Senegal, Serbia and Uzbekistan.

**information to inform policy makers.** The AIM-ECD CR has several advantages compared to a child direct assessment. For instance: a) It is less expensive and time-consuming, requiring only a short, three to five minute interview with a caregiver/parent in their home (World Bank, 2022a); b) it can be integrated into existing household surveys, which may facilitate making inferences about national populations and can provide

local-context social and demographic information; and c) it facilitates the global scaling up of early childhood measurement, particularly by allowing standardized items to be administered regularly to representative populations across countries, making data comparable. Overall, this effort helps to increase quality across early childhood measurement initiatives.

**TABLE 1.** List of 20 Anchor Items for Caregiver Report Questionnaire

Domain	Anchor Items for Caregiver Report Questionnaire
Literacy	1. Can [NAME] name at least 10 letters?
	2. Can [NAME] read four simple words
	3. Can [NAME] follow text in a correct direction from left to right and from top to bottom? (even if s/he cannot read)?
	4. Can [NAME] write at least three letters or some letters?
	5. Can [NAME] write a simple word, besides his/her name?
Numeracy	6. Can [NAME] count from 1 to 10?
	7. Can [NAME] count from 1 to 20?
	8. Does [NAME] know the difference between tall and short using two animal examples, for example that a tiger is taller than a cat?
	9. Can [NAME] know the difference between heavy and light using two animal examples, for example that an elephant is heavier than a pig?
	10. Does [NAME] know the difference between yesterday, today, and tomorrow?
Executive Functioning	11. Does [NAME] know that a one-digit number is larger than another one-digit number, for example that 4 is more than 2?
	12. Can [NAME] pay attention when doing an activity? <sup>2</sup>
	13. When asked to do several things, does [NAME] remember all the instructions?
	14. Is [NAME] able to plan ahead?
	15. Does [NAME] stop an activity when told to do so? <sup>3</sup>
Social-emotional	16. Does [NAME] keep working at something until s/he is finished? <sup>4</sup>
	17. Does [NAME] get along with other children s/he plays with?
	18. Does [NAME] adjust easily to transitions (for example to a new caregiver or adapting to having a new baby at home)?
	19. Does [NAME] accept responsibility for his/her actions?
	20. Does [NAME] settle down after periods of exciting activity? <sup>5</sup>

Source: World Bank (2022c).

<sup>2</sup> This question has been updated to “Can [NAME] usually pay attention when doing an activity?” in the most recent version of the questionnaire.

<sup>3</sup> This question has been updated to “Does [NAME] usually stop an activity when told to do so?”.

<sup>4</sup> This question has been updated to “Does [NAME] usually keep working at something until s/he is finished?”.

<sup>5</sup> This question has been updated to “Does [NAME] quickly settle down after periods of exciting activity?”.



# Implementing the AIM-ECD CR in a nationally representative survey in Nigeria

## 2

### Key findings

- The General Household Survey – Panel (GHS-Panel) Wave 5, for the first time, included a module to collect data on the Early Childhood Development (ECD) of children aged 4 to 6. This module specifically captured the AIM-ECD CR, assessing four key domains through 20 items.
- Nigeria has a high youth dependency ratio, particularly in the North East zone, where there are 107 individuals under 15 for every 100 working-age people.
- In 2023/2024, Nigeria's national average years of education was 5.8. Southern zones had higher attainment (South South zone: 8.1 years), while northern zones lagged (North East zone: 4.0, North West zone: 4.5). Urban areas outperformed rural ones, averaging 7.6 vs. 5.1 years.
- Educational enrollment and attendance in Nigeria show significant regional disparities. While over 90% of individuals in the south have been enrolled in some school, this drops to 61% in the North East zone. Similarly, only 57.3% of children aged 5-14 currently attend school in the North East zone, compared to almost universal attendance in the south.
- Malnutrition remains a critical issue in Nigeria, with 42.7% of males and 38.5% of females affected by stunting. Regional disparities are stark, with North East having the highest stunting rates (up to 54.1% for females) and South West, the highest wasting rates (36.4% for females). Stunting and underweight rates are higher among rural males, while urban females are more affected.

## 2.1. The General Household Survey – Panel (GHS-Panel)

**The General Household Survey – Panel (GHS-Panel) Wave 5 included, for the first time, a survey module to collect information about the Early Childhood Development (ECD) of children 4 to 6 years.** More specifically, it captured the AIM-ECD CR including the 20 items used to assess early childhood development. Thus far, five waves of the GHS-Panel have been conducted: in 2010/11 (Wave 1), 2012/13 (Wave 2), 2015/16 (Wave 3), 2018/19 (Wave 4) and 2023/24 (Wave 5), but this

module has been introduced for the first time during Wave 5. The GHS-Panel is the result of a partnership that Nigeria's National Bureau of Statistics has established with the Bill and Melinda Gates Foundation (BMGF) and the World Bank (WB). The ability to follow the same households over time makes the GHS-Panel a powerful tool for studying and understanding income generating activities and socio-economic outcomes in Nigeria.

**The GHS-Panel is Nigeria's only nationally representative panel survey, allowing researchers to track the same households over time.** Wave 5 for

2023/2024 surveyed around 4,770 households, providing a nationally representative sample and is representative of the six geopolitical zones. In the GHS-Panel, the AIM-ECD CR was included in a dedicated module on early child development for children aged 4 to 6 years. This enables the assessment of children's development within the context of their home environment and broader regional factors.

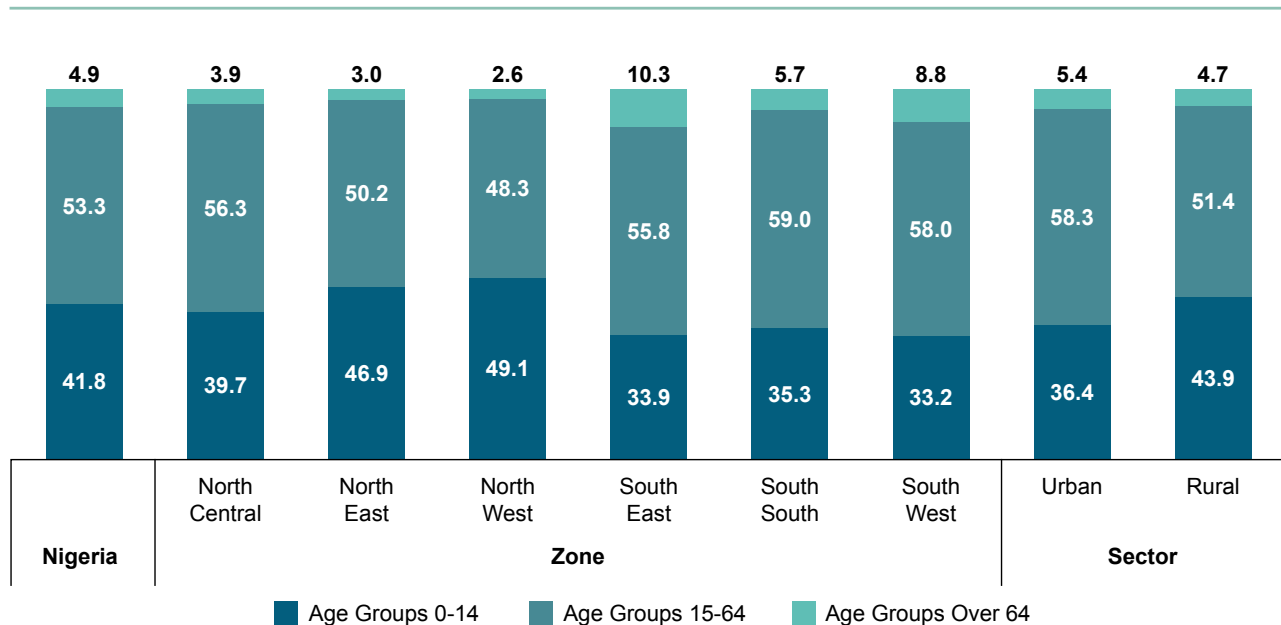
## 2.2. Nigeria's Context

**Nigeria is Africa's most populous country, and it has a predominantly young population.** Nigeria has over 200 million people, and this number is expected to double by 2030 (World Bank, 2022b). At the national level, the population aged 0-14 years accounts for 41.8%, the working-age group (15–64 years old) represents more than half of the Nigerian population (53.3%), and those aged 64 and over only represent 4.9% of the population. In northern zones, the population under 14 ranges from 39.7% in the North Central zone to 49.1% in the North West zone. In comparison, southern zones show a slightly lower percentage of this age group, especially in the South West zone, which shows the lowest share of this population group (33.2%). Likewise, southern zones

tend to have higher percentages of individuals over 64 compared to the northern zones (see Figure 1).

**This demographic structure suggests that the working-age population faces a greater responsibility in supporting dependents, particularly the younger generation.** In Nigeria, the youth dependency ratio<sup>6</sup> is 0.85, meaning that for every 100 people in the working-age group (15–64 years old), there are 85 under 15 years old. Meanwhile, the overall dependency ratio<sup>7</sup> stands at 0.96, indicating that for every 100 working-age individuals, there are 96 dependents (either younger than 15 or older than 64). At the zonal level, the North West zone has the highest dependency ratio at 1.3, while the South West zone has the lowest at 0.7. Urban areas have a dependency ratio of 0.8, compared to 1.0 in rural areas. The same pattern is evidenced in the youth dependency ratio (see figure 2). However, in the coming years, the working-age population is expected to grow faster than the non-working-age population due to declining fertility rates (Hasan, et al., 2019; Cummins, 2024; World Bank, 2024b). The increasing share of those in the working-age group, referred to as the “demographic dividend,” could enhance productivity and improve living conditions.

FIGURE 1. Share of population by age groups



Source: Own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5

<sup>6</sup> Youth Dependency Ratio correspond to the number of children (0–14 years old) to the working-age population (15–64 years old).

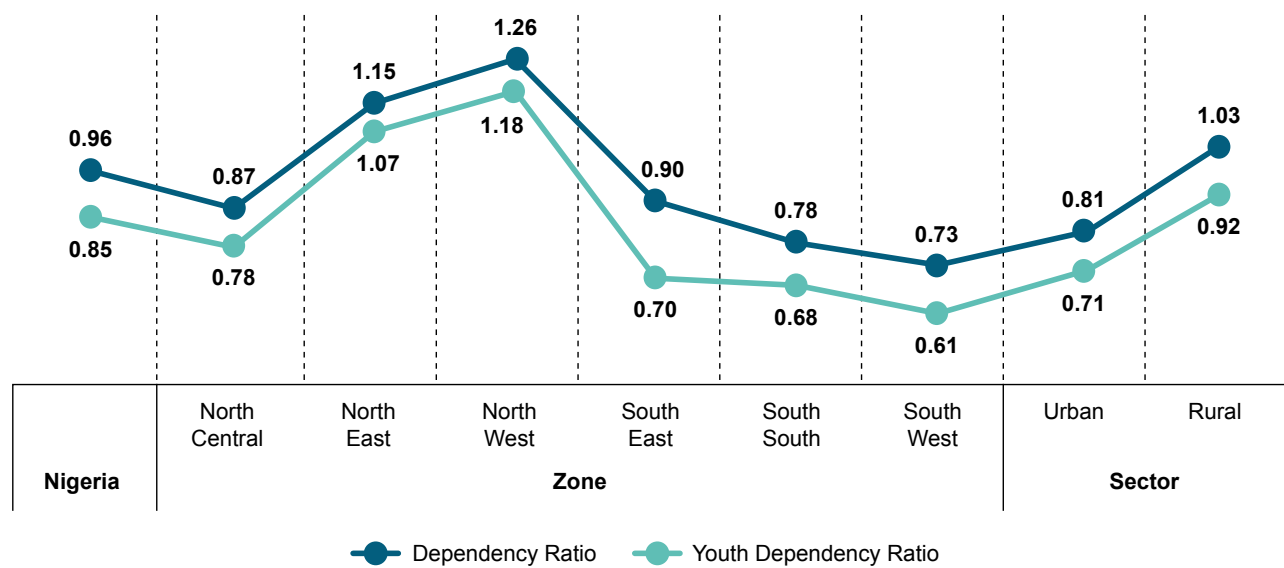
<sup>7</sup> Dependency Ratio represent the ratio of dependents (people younger than 15 or older than 64) to the working-age population (15-64 years old).

**Likewise, the household size tends to be larger in the northern zones and rural sector.** The national average household size is 5.6. In northern zones this indicator ranges from 5.9 members in North Central to 7.9 members in North East and North West. In contrast, southern zones average less than 5 members per family. The South West zone has the smallest average household size at 3.6 members, followed by South East (4.1) and

South South (4.4). Similarly, a disparity is evident between the urban and rural sectors. In the urban sector, the average household size is 4.9 members while in the rural sector it increases to 6 members per household (see figure 3).

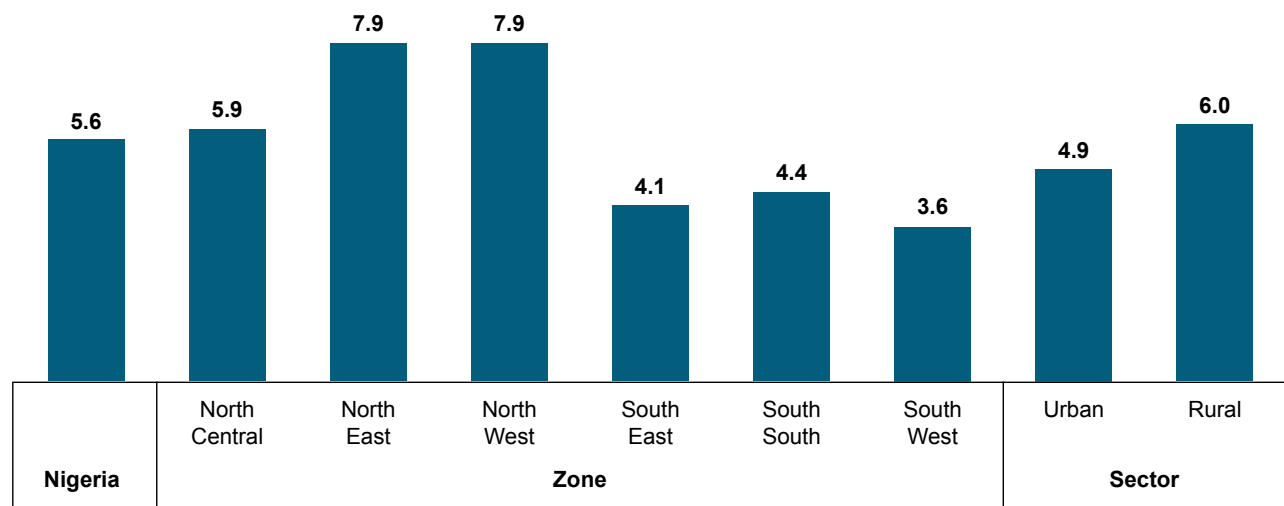
**Generally, southern zones exhibit a higher average number of years of education compared to northern zones.** The national average years of education reported

FIGURE 2. Total and Youth Dependency Ratio



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5

FIGURE 3. Average household size (Number of household members)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5

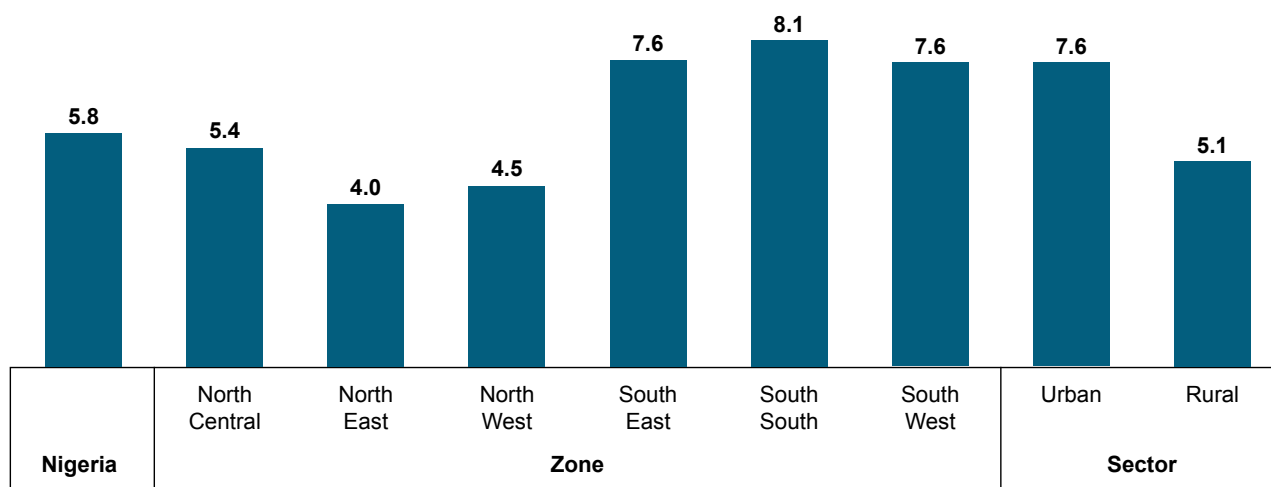
for individuals ages three years and older was 5.8 during the 2023/2024 GHS-Panel Survey. There are notable zonal differences, with the South South having the highest average at 8.1 years, followed by the South East and South West, both at 7.6 years. In contrast, the northern zones exhibit lower educational achievement. The North Central zone reports an average of 5.4 years, while the North East and North West zones have lower averages at 4.0 and 4.5 years, respectively. When comparing urban and rural sectors, the urban sector has an average of 7.6 years; this is significantly higher than the rural sector, which averages 5.1 years (see Figure 4).

**The low level of schooling may be linked to limited school attendance, with only 83.4% of individuals aged 6 and older reported being enrolled in school at some point.** In particular, this share was 63.0% in North East, 71.7% in North Central, and 83.8% in North West, while the southern zones have a share higher than 90%. The same distribution is observed when analyzing the proportion of children aged 5-14 currently attending school. Nationally, 76.1% of children are currently attending some school. In northern zones this share

ranges from 57.3% in North East to 70.5% in North West. In southern zones the lowest rate is 96.6% in South West and the highest is 97.7% in South East.

**Furthermore, the child anthropometry data<sup>8</sup> reveals significant disparities in nutritional status among children aged 6-59 months across zones and sectors (See figure 5).** Good nutrition is not just about strong bodies, it is equally important for strong minds (UNICEF, 2017). Nationally, as shown in figure 5, stunting affects 42.7% of males and 38.5% of females, while wasting is observed in males (10.3%) and females (9.6%), and underweight conditions are observed in 27.3% of males and 22.7% of females. Zonal variations are notable, with the North East zone showing the highest stunting rates (48% for males and 54.1% for females), and the South West exhibiting the highest wasting rates (18.2% for males and 36.4% for females). Underweight is more prevalent for males in South West (29.5%) and for females in North East (34.2%). Urban areas reported lower stunting rates (29.7% for males and 36.4% for females) compared to rural areas (46.2% for males and 39.2% for females). The data also reveals distinct patterns in wasting and

**FIGURE 4.** Mean Years of Education (Individuals ages three years or older)



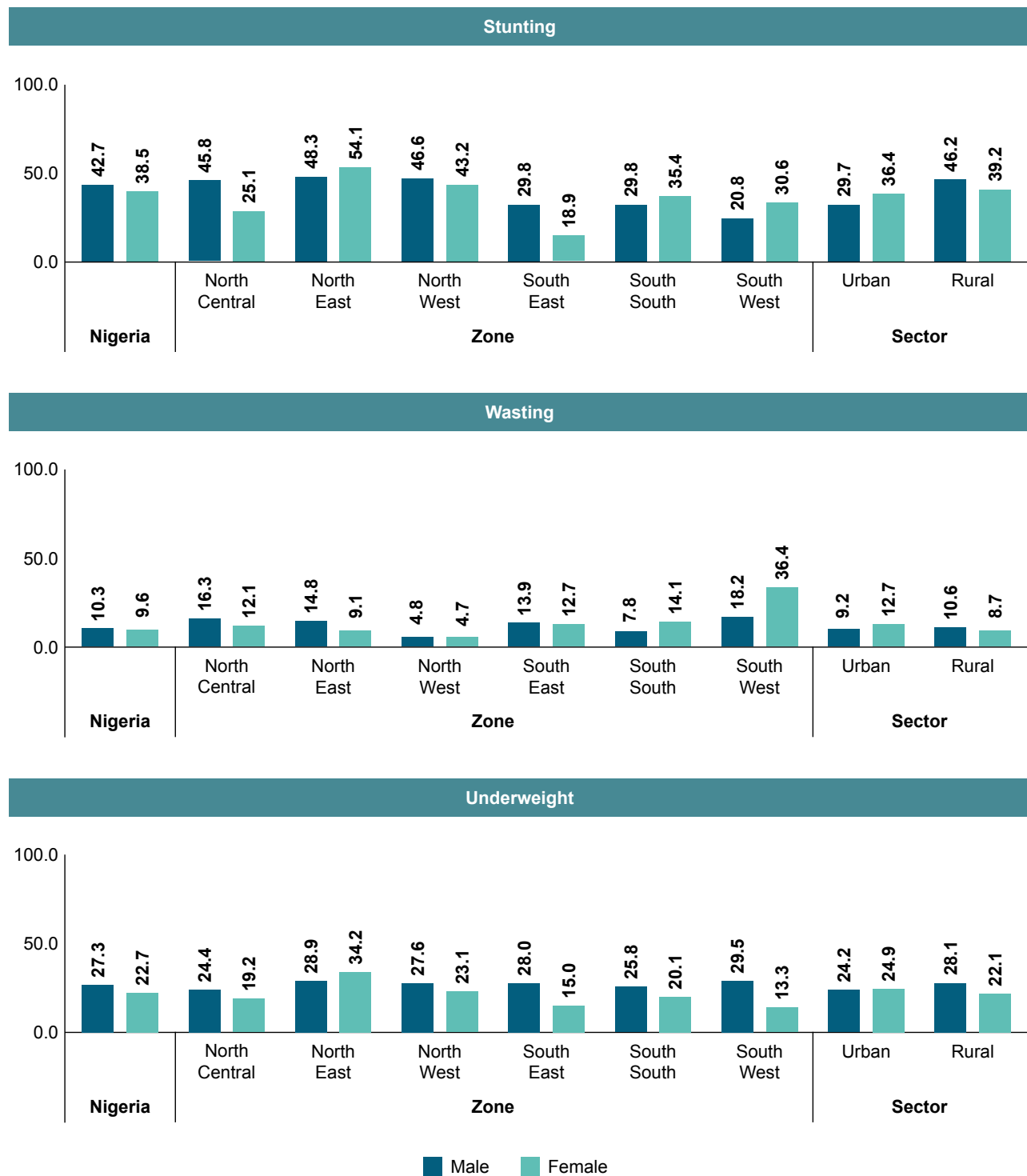
Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5

<sup>8</sup> Child anthropometry assesses the nutritional status of children under 60 months of age, focusing on three key indicators: stunting, wasting, and underweight. These indicators are derived from measurements of height and weight for children ages 6 to 59 months, evaluating their height-for-age (stunting), weight-for-height (wasting), and weight-for-age (underweight). Stunting refers to children being too short for their age, signaling chronic malnutrition. Wasting indicates being too thin for their height, pointing to acute malnutrition, while underweight represents a combination of both chronic and acute malnutrition.

underweight rates between urban and rural sectors, with notable gender differences. In the rural sector, males exhibit higher rates of wasting (10.6%) and underweight (28.1%) compared to females (8.7% and 22.1%,

respectively). In contrast, in the urban sector, wasting and underweight are more prevalent among females (12.7% and 24.9%, respectively) compared with males (9.2% and 24.2%, respectively).

FIGURE 5. Child Anthropometry (Share of children ages six to 59 months)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5

**Over the past five years, the urban sector has experienced a notable increase in the prevalence of stunting, wasting, and underweight among children, except for a slight decline in stunting among males (see figure 6).**

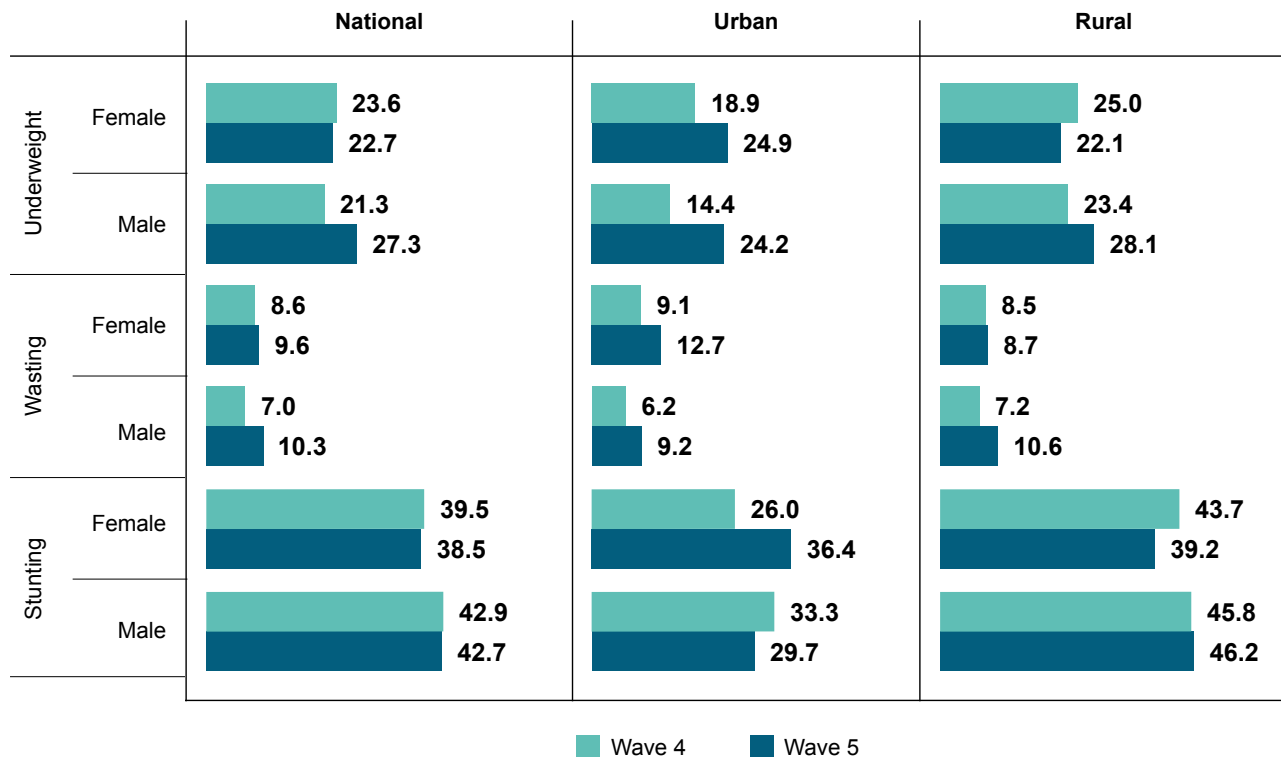
Nationally, stunting rates have shown a minor decrease for both males (from 42.9% to 42.7%) and females (from 39.5% to 38.5%). However, in the urban sector, stunting among females has risen significantly, increasing from 26.0% to 36.4%. In contrast, in the rural sector stunting rates decreased for females and increased for males. Regarding wasting, an increase in the proportion of affected children is observed both nationally and across sectors. For underweight, both girls and boys in the urban sector show a greater increase of 6.0 and 9.8 percentage points, respectively. In comparison, rural boys showed an increase

of 4.7 percentage points, while girls reported a decrease of 2.9 percentage points (see figure 6).

**These anthropometric results reveal significant challenges for the country, especially since 48.8% of households reduced their food intake after they experienced a shock in the year preceding the survey.**

The analysis of the geopolitical zones shows that reduction in food consumption was the leading coping measure across all six zones. The highest share of households coping with shocks using this mechanism was reported in the South South zone (57.6%) followed by South East (51.0%) and North East (50.1%), while North Central report the lowest at 42.0%, followed by North West (44.9%) and South West (45.4%).

**FIGURE 6.** Child Anthropometry during 2018/19 (wave 4) and 2023/24 (wave 5) (Share of children ages six to 59 months)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5

# Early Childhood Development in Nigeria

## 3

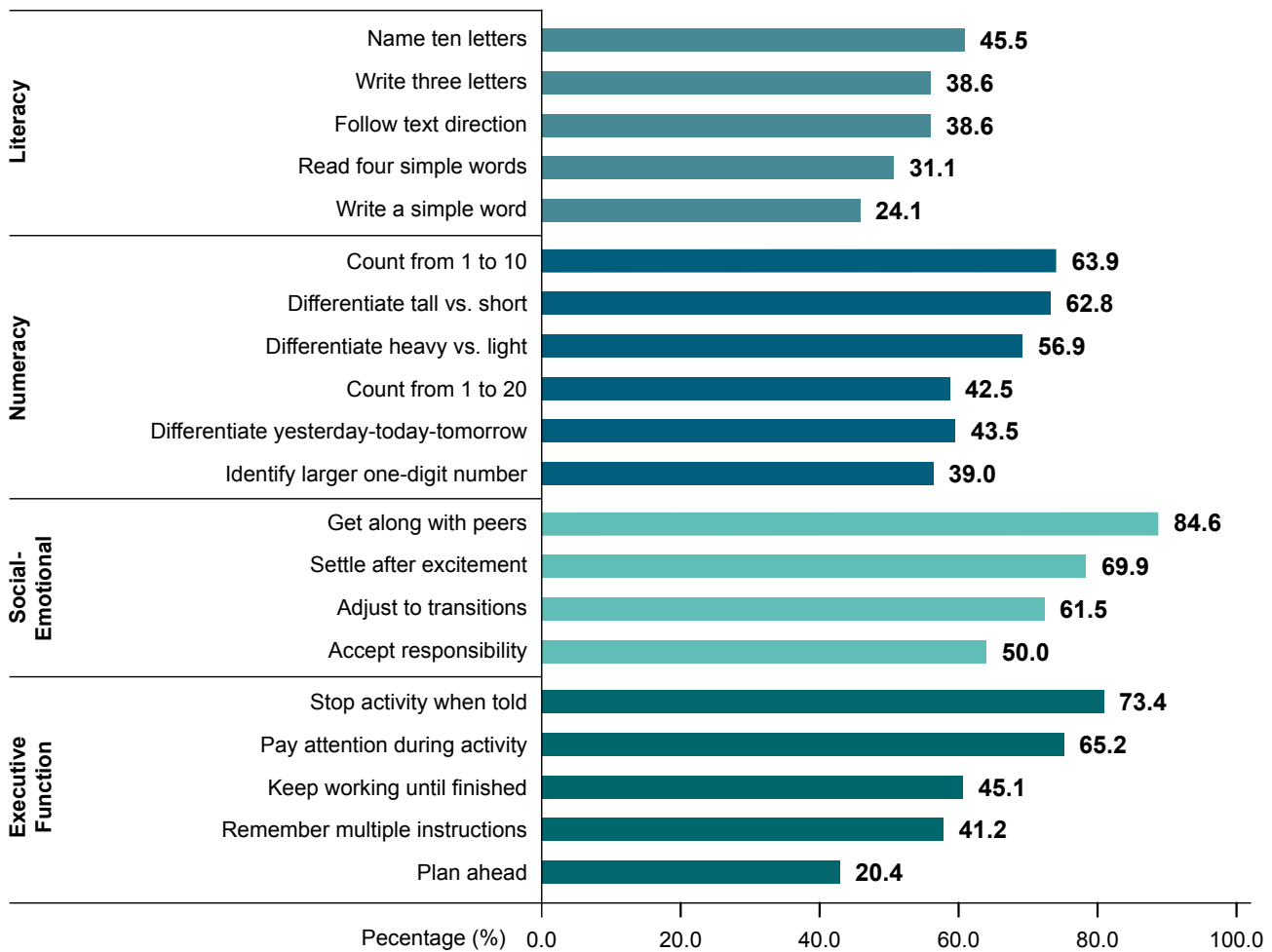
### Key findings

- Early literacy is the most challenging ECD domain, with only 24.1% of children aged 4-6 able to write a simple word beyond their name. In contrast, the best-performing skill is letter recognition, with 45.5% of children able to name at least ten letters.
- In the early numeracy domain, the most challenging task for children is identifying the larger of two one-digit numbers, with only 39% able to do so. In contrast, the highest success rate is in counting from 1 to 10, which 63.9% of children can accomplish.
- In the executive functioning domain, the most challenging task is planning ahead, with only 20.4% of children able to do so.
- In the social-emotional domain all indicators were achieved by at least half of the children. The highest level of proficiency was reported in children's ability to interact positively with peers, with 84.6% of caregivers reported that their children get along with others when playing.
- Children in urban areas outperform those in rural areas across all domains, with the largest gap in literacy (34.1 percentage points for the skill of writing three letters) and the smallest in socio-emotional skills (5.3 percentage points for settle after excitement).
- Geographical disparities in children's skills are pronounced, with Northern Nigeria lagging far behind the South. The largest gap is in writing a simple word beyond their name, where only 9.9% of children in the North West can do so, compared to 65.2% in the South West.
- Mother's education is strongly linked to ECD performance, especially in early literacy. The share of children able to write a simple word rises from 9.3% in households where the mother has no education to 46.7% and 74.8% in households where the mother has a secondary and tertiary education, respectively.
- School attendance has a stronger impact on ECD outcomes. Children who start school earlier perform better, particularly in early literacy and early numeracy. For example, 75.4% of 6-year-olds who began school at age 2 can write a simple word, compared to just 13.2% of those who started at age 6.

**The results of Early Child Development in Nigeria indicate challenges across the four domains.** Figure 7 illustrates the performance of each item on the AIM-ECD CR captured in the GHS-Panel Wave 5

2023/24, organized by domains. The figure reveals high heterogeneity in the performance of children, ages four to six years across the different domains.

FIGURE 7. ECD Outcomes by domains (Share of children ages four to six years)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

Note: The values represent the percentage of affirmative responses provided by caregivers. An affirmative answer indicates that the child is able to perform the activity described in the item.

**The data shows that for a larger share of children, early literacy is the most challenging ECD domain.** This domain consists of five items, and for all of them, less than half of the children, ages four to six years, can complete the expected outcomes, as reported by their caregivers. The most difficult task in this domain is writing a simple word besides his/her name, with only 24.1% of children able to do so. This is followed by 31.1% of children who can read four simple words, indicating a significant degree of difficulty between writing and reading. Furthermore, only 38.6% of the children can follow text in the correct direction, even if they cannot read. Similarly, the varying difficulty between reading and writing is reflected in the fact that while 45.5% of children can name at least ten letters, only 38.6% can write at least three letters.

**A higher proportion of children successfully perform tasks in the early numeracy domain compared to the literacy domain, but gaps persist depending on the type of task.** This domain consists of six items, with three reporting that less than half of the children can perform these expected outcomes. The most challenging task in this domain is identifying which of two one-digit numbers is larger, with only 39% of children able to do so. In the same way, only 43.5% of children reported being able to differentiate between yesterday, today and tomorrow. Only 56.9% of children can differentiate between heavy and light, while 62.8% can differentiate between tall and short. When assessing numerical skills, a significant gap emerges as the counting range increases. While 63.9% of children can count from 1 to 10, this percentage declines to 42.5% when assessing the ability to count from 1 to 20.

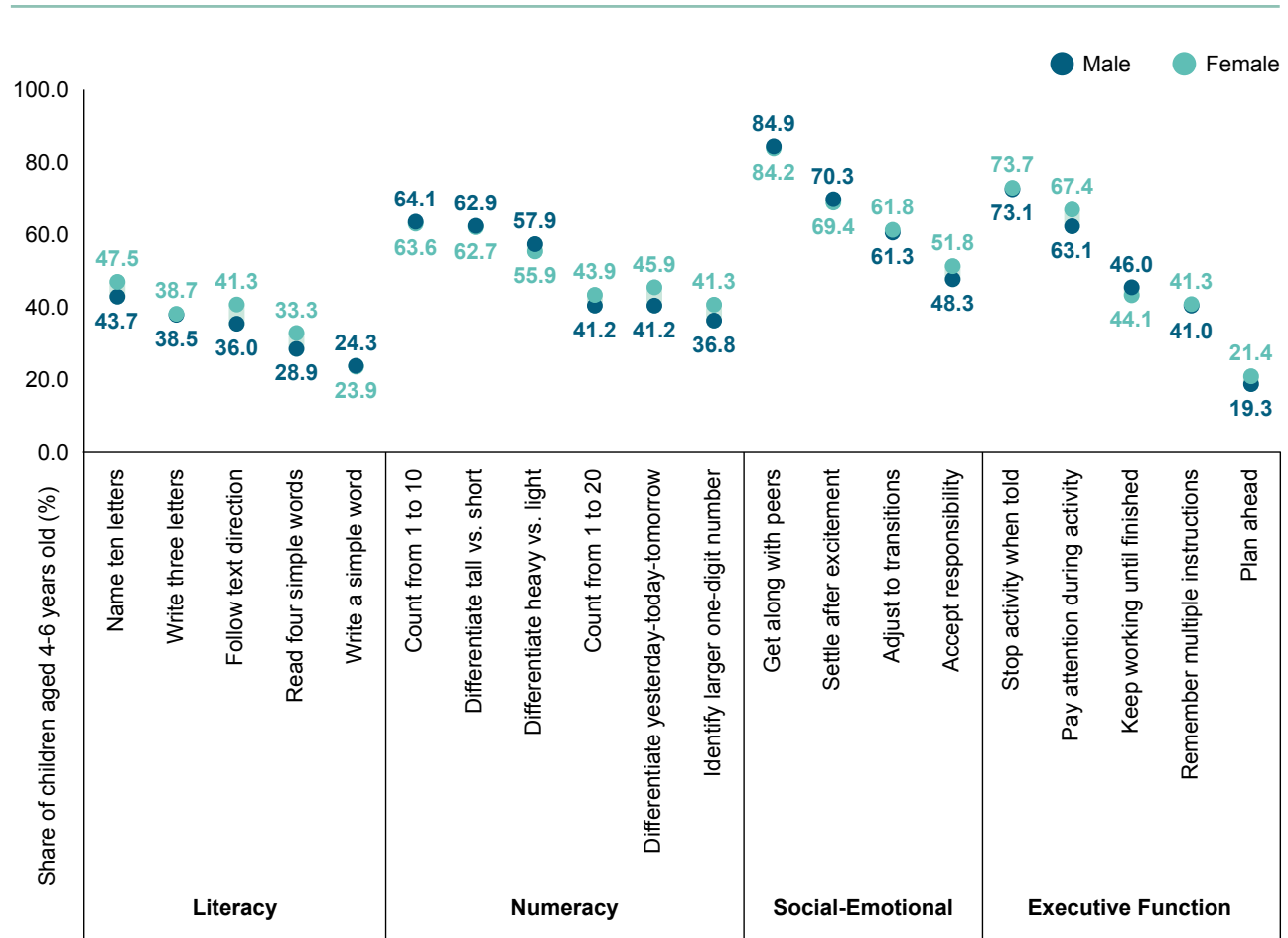
**In the social-emotional domain all indicators were achieved by at least half of the children.** This domain consists of four items. The highest level of proficiency was reported in children’s ability to interact positively with peers, with 84.6% of caregivers reported that their children get along with others when playing. Similarly, 69.9% of children are able to settle down after exciting activity, 61.5% adjust easily to transitions, and 50.0% reported that they take responsibility for their actions.

The most difficult task in this domain is being able to plan ahead, as only 20.4% of children reported being able to do so. There are two items used to assess tasks related to the ability to pay attention. The first indicates that 65.2% of children reported being able to pay attention when engaged in an activity, while the second shows a drop, with only 41.2% reported being able to remember all the instructions when asked to do several things. Additionally, 73.4% stop an activity when asked to do so.

**The executive functioning domain shows significant variability in children’s abilities, highlighting disparities in developmental progress.** This domain consists of five items, with relevant heterogeneity in the shares of children that can complete each of the outcomes; notably, three out of the five items have a completion rate below 50.0%.

**Gender differences are negligible in most tasks; girls are marginally more able than boys to complete the tasks successfully.** As shown in figure 8, girls outperform boys by more than one percentage point on nine items, and on seven of them, by more than three percentage points. Boys outperform girls by more than one percentage point

**FIGURE 8.** Difference in the share of girls and boys able to perform specific tasks of ECD (Share of children aged 4-6 years old)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

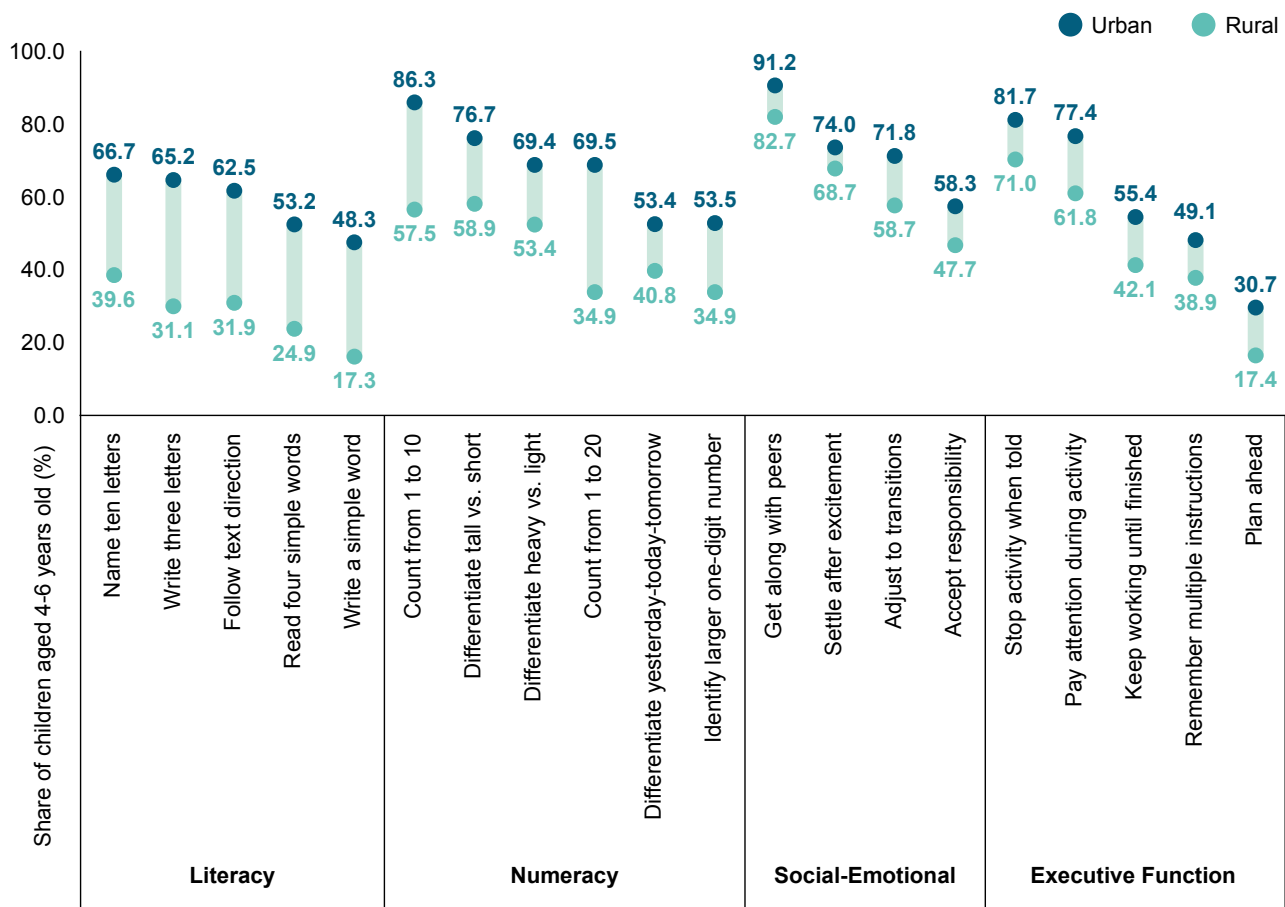
Note: The values represent the percentage of affirmative responses provided by caregivers. An affirmative answer indicates that the child is able to perform the activity described in the item.

on two items, and by less than 1 percentage point on four items. Of all tasks, only three show statistically significant differences<sup>9</sup>: a higher proportion of girls can pay attention while engaged in an activity, can differentiate between yesterday, today, and tomorrow, and can follow text in the correct direction (5.3, 4.7, and 4.3 percentage points, respectively).

**The share of children able to complete tasks is significantly higher in urban areas compared to rural areas across all items, with the largest differences in literacy.** The share of children in urban areas who can

complete tasks in the literacy domain is 27.1 to 34.1 percentage points higher than in rural areas. The item with the largest gap in this domain is the ability to write at least three letters, with 34.1 percentage points more children in urban areas achieving this task compared to children in rural areas. The numeracy domain shows greater variability in the gaps, with a higher proportion of children in urban areas able to perform most tasks, with a difference ranging from 12.6 to 34.5 percentage points. The widest gap is in the ability to count from 1 to 20, where the share of children who can complete this task in urban areas is 34.5 percentage points higher than in rural areas. The gaps in the

**FIGURE 9.** Urban-Rural Areas Differences for ECD outcomes (Share of children aged 4-6 years)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5

Note: The values represent the percentage of affirmative responses provided by caregivers. An affirmative answer indicates that the child is able to perform the activity described in the item.

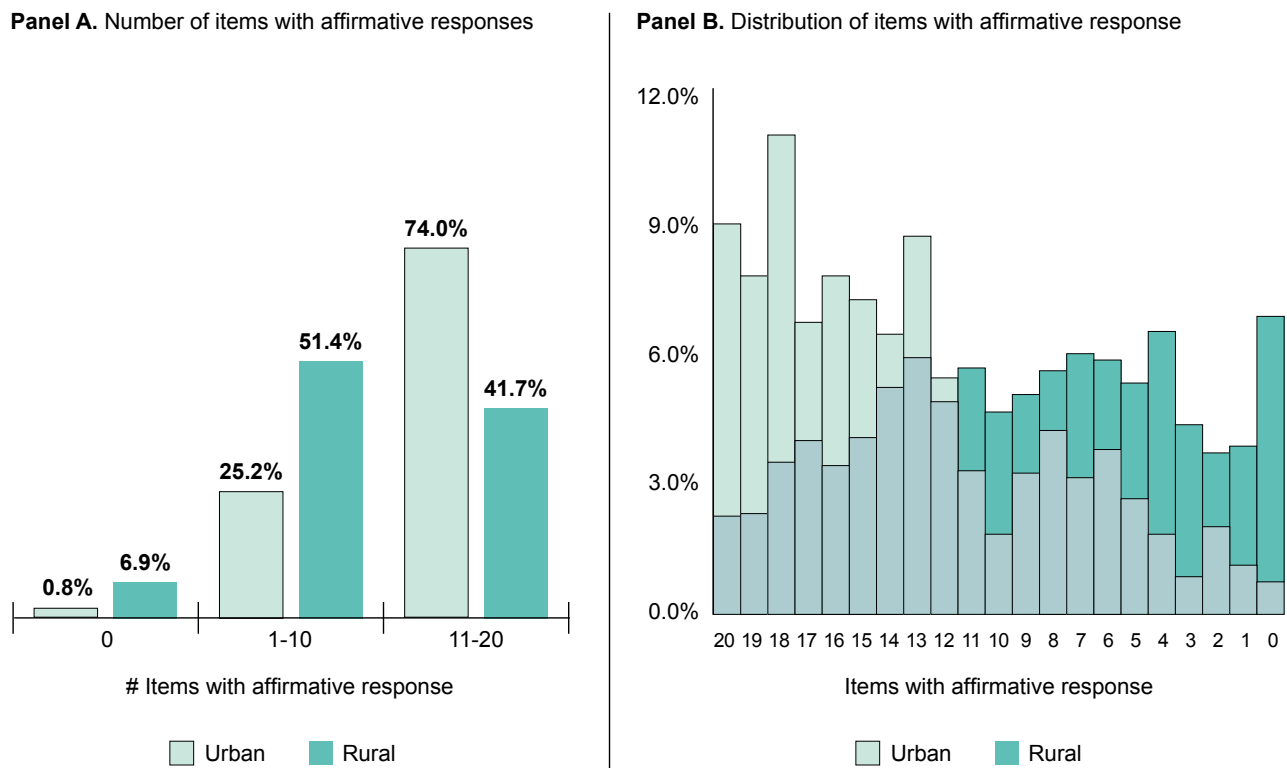
<sup>9</sup> Using a simple t-test to compare whether the difference of means between males and females is different from 0, with a 5 % significance level.

executive functioning and social-emotional competencies domain are smaller, ranging between 5.3 to 13.1, and 10.1 to 15.6 percentage points, respectively. The item with the largest gap in these domains is the ability to pay attention when engaging in an activity and keep working until finished, both with 15.6 percentage points more children in urban areas achieving this task (see figure 9).

note that 6.9% of children in rural areas reported being unable to perform any of the tasks, compared to just 0.8% in urban areas (see figure 10).

**Regional disparities are evident in the number of ECD tasks successfully completed.** For example, 74.0% of children in urban areas can complete 11 or more tasks, compared to only 41.7% in rural areas. It is important to

**FIGURE 10.** Number of items with affirmative response by sector (Share of children ages four to six years)



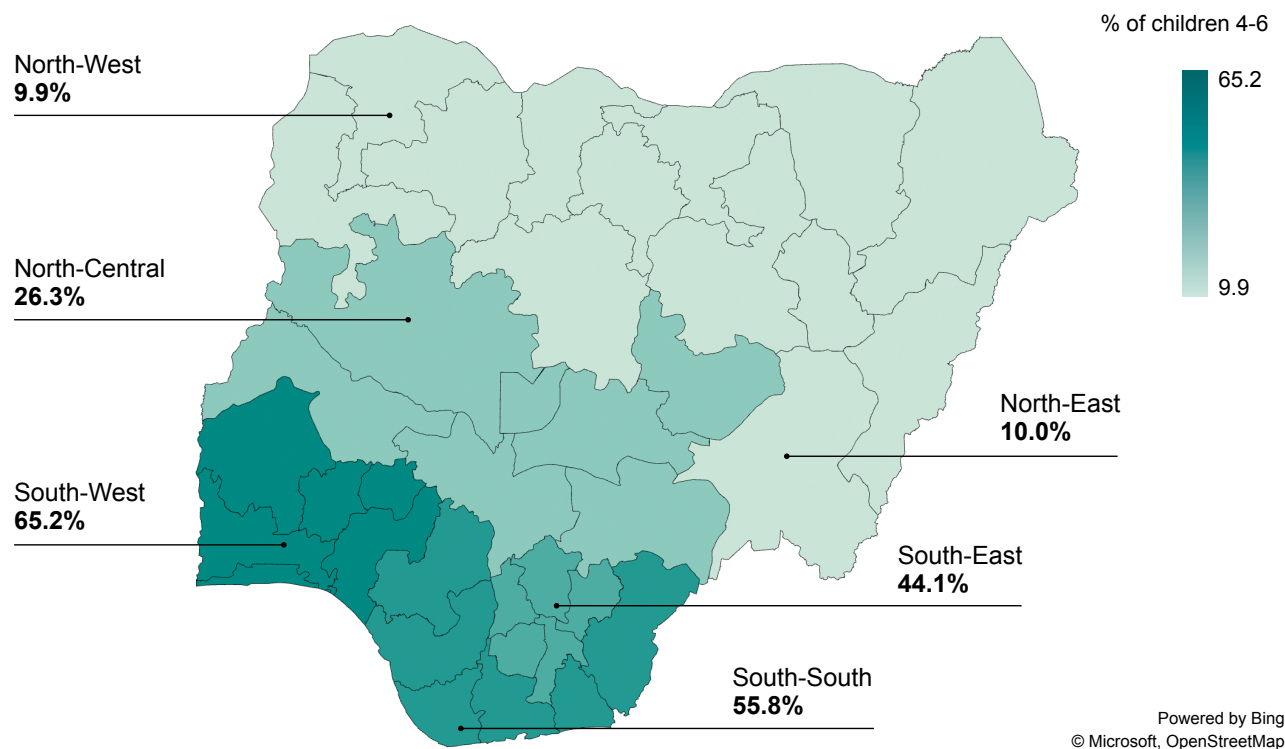
Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

**Substantial disparities are also evident across geographical zones, with a lower share of children reported being able to perform tasks in Northern Nigeria compared to Southern regions.** For example, as shown in figure 11, the proportion of children able to write a simple word besides their name is below 9.9% in the North-West, 10.0% in the North-East, and 26.3% in North-Central, which is much lower than in the South-West (65.2%), South-South (55.8%), and South-East (44.1%). Hence, the difference in the share of children able to complete the task in the South-West is around 55 percentage points higher than in the North-West, and larger than the gap between urban and rural areas

(31.0 percentage points). This highlights the urgent need to address the challenges faced by residents in Northern Nigeria, including the consequences of the armed conflict.

**The small differences between genders but high differences across regions highlight the strong influence of social and economic factors.** Family and social environments, shaped by social and economic conditions, play an important role in shaping children's abilities and cognitive (IQ) and non-cognitive traits (motivation and persistence), particularly at a young age (Cunha et al., 2006). In this context, regional differences imply underlying social and economic factors that affect the

**FIGURE 11.** Share of children that can write a simple word, besides his/her name (%)

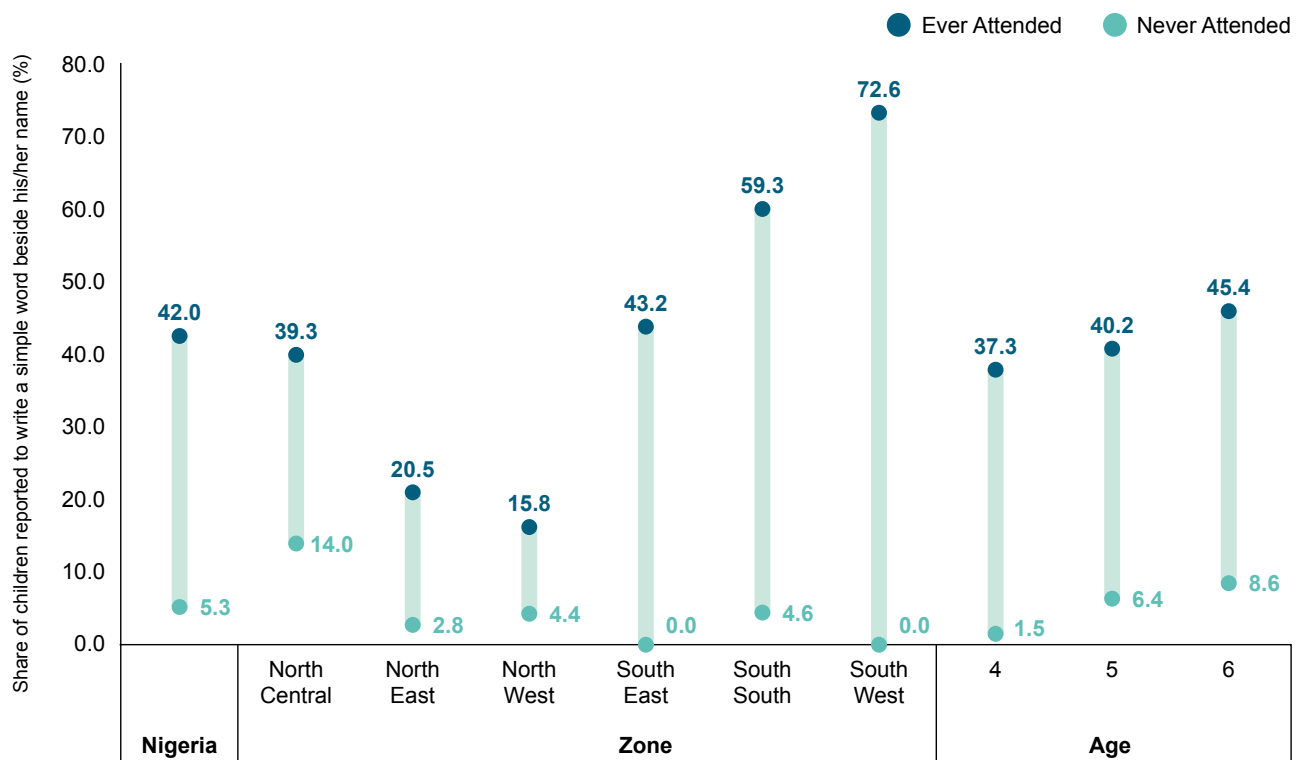


Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

ability of families to provide a better environment for the development of their children. At an early age, children of different genders have likely begun experiencing different socialization processes, but these results suggest that social and economic pressures that affect family background may play a larger role at this stage. Specific factors could be related to cost and distance barriers that disproportionately affect low-income households, social norms, as well as the conflict in northern areas, which may affect boys and girls in similar ways at this stage.

**Regional differences in ECD outcomes are positively associated with the proportion of children who have ever attended school or daycare.** School/Daycare enrollment is lower in northern regions, affecting the share of children able to complete tasks. For example, regions with a higher share of school/daycare attendance among children, aged four to six, also show a higher share of children able to write a simple word, besides his/her name (see figure 12). Additionally, children tend to show a better performance in literacy outcomes as they grow older. For instance, a higher proportion of six-year-old children reported to write a simple word besides his/her name compared to four-year-old children.

**FIGURE 12.** School/daycare attendance and literacy development by zone and age of children (Share of children ages four to six years)



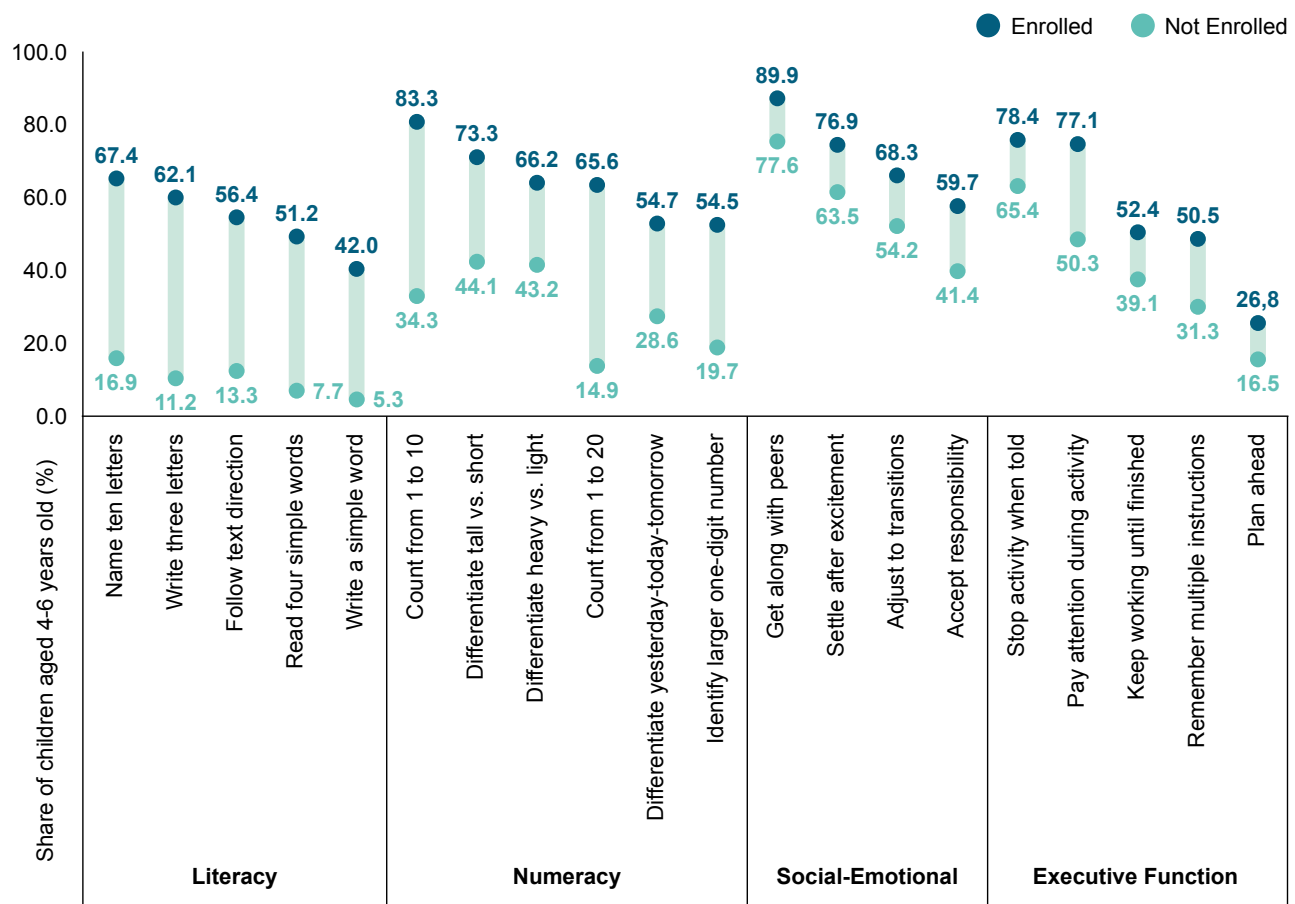
Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

Note: Cross-sectional weights are used in this figure.

**At the individual level, school/daycare attendance is positively associated with better performance on the ECD outcomes, particularly in the literacy and numeracy domains.** For example, among children who have ever attended school/daycare, the share of children who reported being able to name at least ten letters and count from 1 to 10 is around 50 percentage points higher than for those who have never attended, on both tasks. Similarly, school attendance appears to improve performance in the executive functioning and social-emotional competencies domain, but to a lesser extent

when compared to the other domains. For example, the share of children who reported being able to plan ahead only increases from 16.5% among those that have never attended school/childcare to 26.8% among those who have, resulting in a 10.3 percentage point increase. In some cases, these modest increases in this domain may be due to a relatively high baseline. Furthermore, the share of children reported to get along with other children is 77.6% for those who have never attended school/childcare, rising to 89.9% for those who have, resulting in a 12.3 percentage point increase (see figure 13).

**FIGURE 13.** School Attendance Effects on ECD (Share of children ages four to six years)



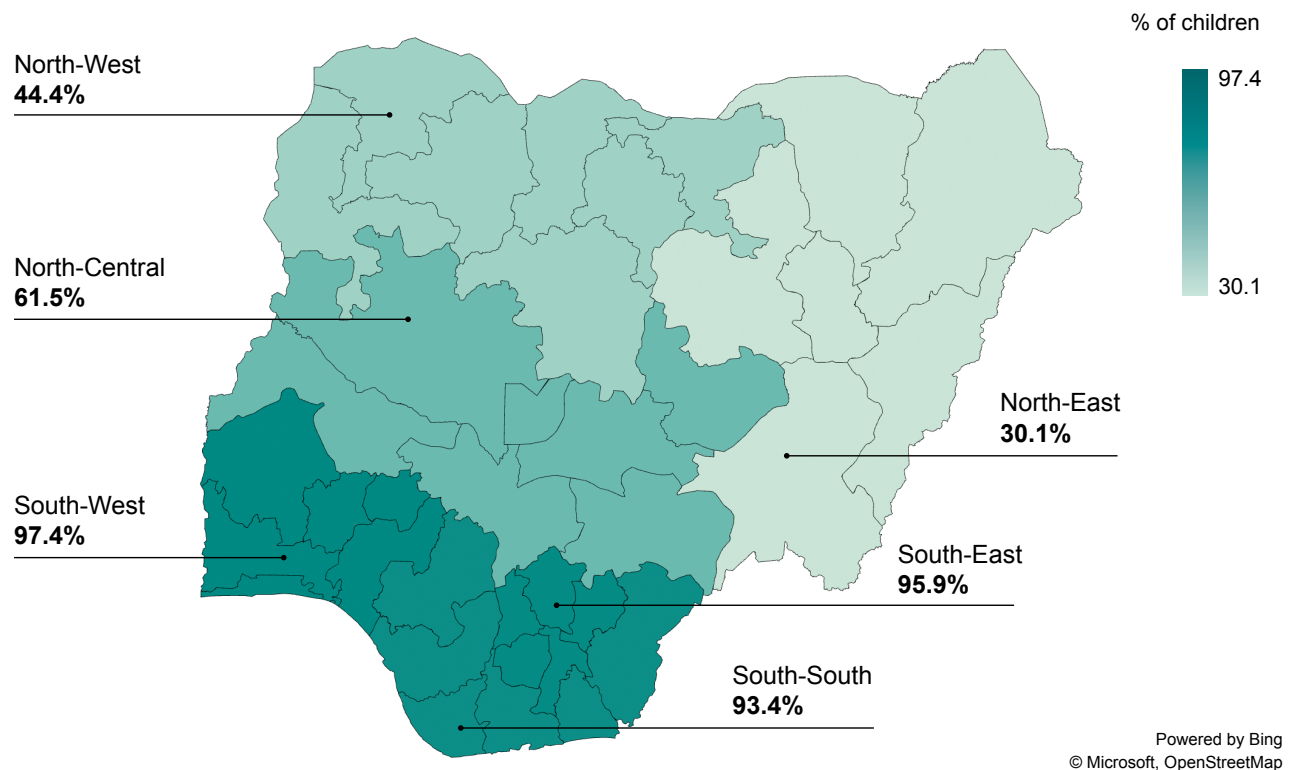
Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

Note: The values represent the percentage of affirmative responses provided by caregivers. An affirmative answer indicates that the child is able to perform the activity described in the item.

**The differences in enrollment rates between zones and sectors are substantial.** The share of children, aged four to six, who have ever attended school/daycare in urban areas is 76.2%; much higher than the average in rural areas (55.0%). Similarly, the differences in enrollment rates between zones are significant. In southern zones the percentage of children, aged four to six, who have attended school/daycare is around 95.0% while in the northern zones, this share is around 37% (see figure 14).

**Most of the children in pre-primary education attend private schools, and they show a better ECD performance compared to those in other types of schools.** Of children, aged four to six, who attended school/daycare in Nigeria during the 2023/2024 school year, 53.7% were enrolled in private schools. Schools operated by state or local governments collectively account for 34.1% of enrollment. Finally, 12.2% of children attend another type of school such as religious, community or

**FIGURE 14.** School Attendance by region (Share of children ages four to six years)

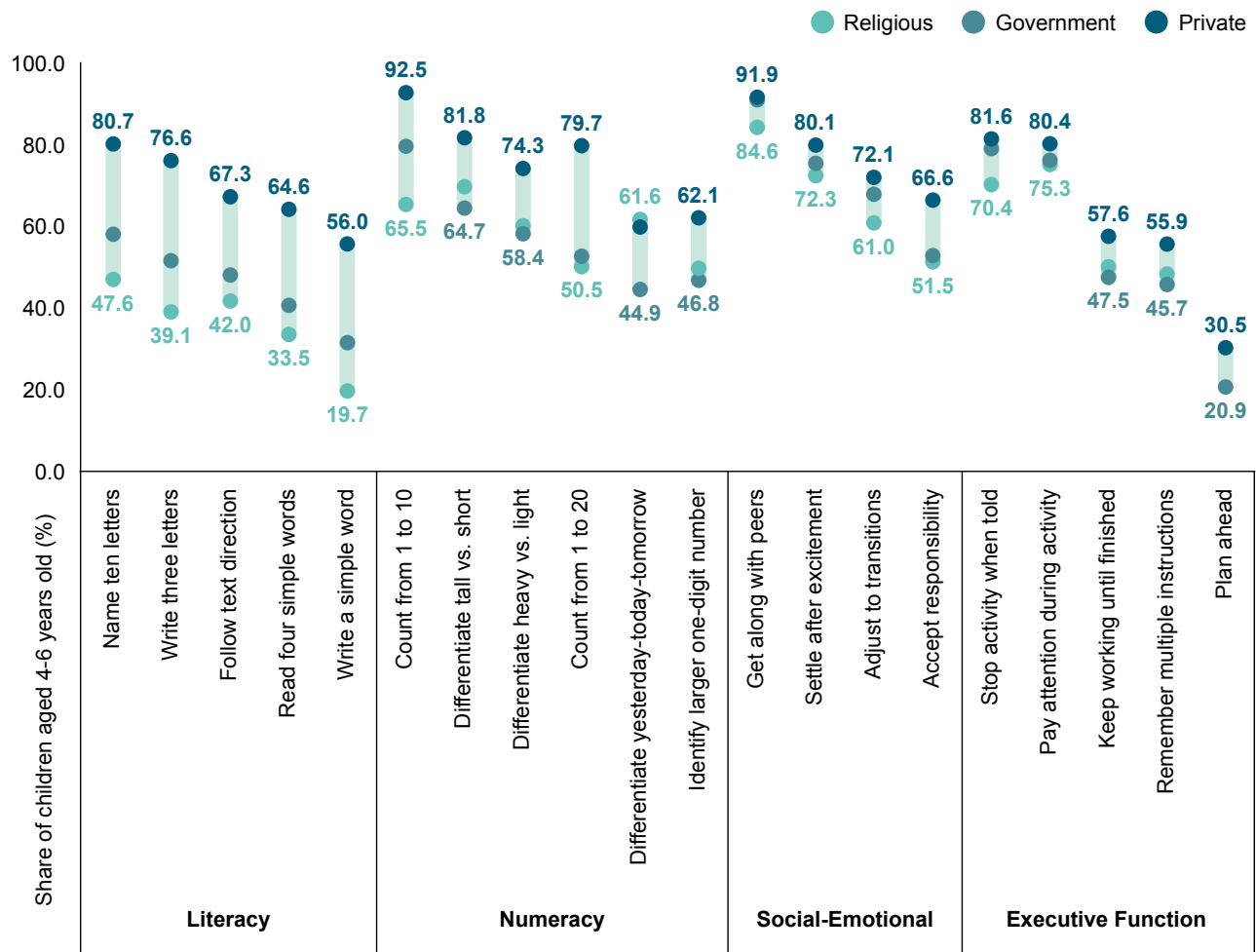


Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

non-governmental organization (NGO) schools. This share is significantly higher in the North West, where it is 34.0%, and includes enrolment in Qur’anic schools and Integrated Islamic Education programs. A higher percentage of children who attend private schools can perform the ECD tasks, compared to those in other types of schools. Children attending government and religious schools have a similar performance overall, although children in religious schools perform relatively worse in the literacy domain (see figure 15).

**The mother’s education is strongly associated with Early Childhood Development performance.** The share of children able to successfully complete tasks increase significantly (particularly in literacy) in households where the mother has higher education. For example, the share of children able to write a simple word besides his/her name increases from 9.2% in households where the mother has no education, to 46.7% in households where the mother has completed secondary school. Although not included in the chart, the share increases to 74.8%

**FIGURE 15.** Type of Organization that runs the school (Share of children ages four to six years)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

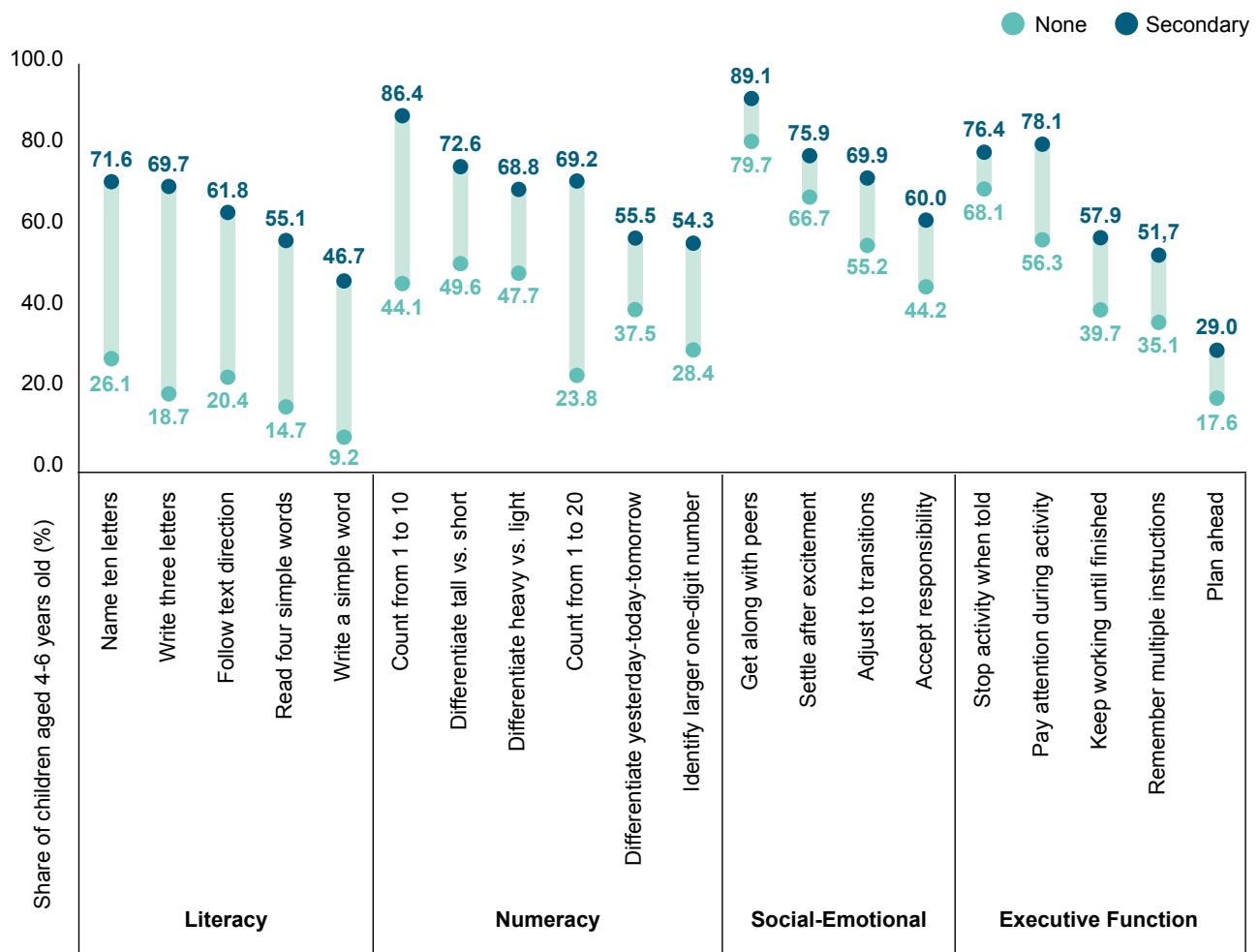
Note: The values represent the percentage of affirmative responses provided by caregivers. An affirmative answer indicates that the child is able to perform the activity described in the item. See Table A1 in the appendix for more details.

in households where mothers have a tertiary education. However, only 9.1% of the mothers in the sample have a tertiary education, and 50.7% have no qualifications (see figure 16).

**These results suggest that family background strongly influences children’s development from an early age.** Mother’s level of education is correlated with families’ social and economic backgrounds, better parental socialization, and associated health benefits for children,

which play an important role in shaping the abilities that stay with children long after they have left school (Heckman, 2008; World Bank, 2018). Children from disadvantaged families may be affected by various factors from an early age. Poverty has pervasive effects, impacting cognitive development through exposure to stressful events and limited language experiences. In addition, it also influences non-cognitive traits by restricting values and aspirations (Heckman, 2008; World Bank, 2015a).

**FIGURE 16.** Mother’s level of education influences the share of children able to complete tasks (Share of children ages four to six years)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

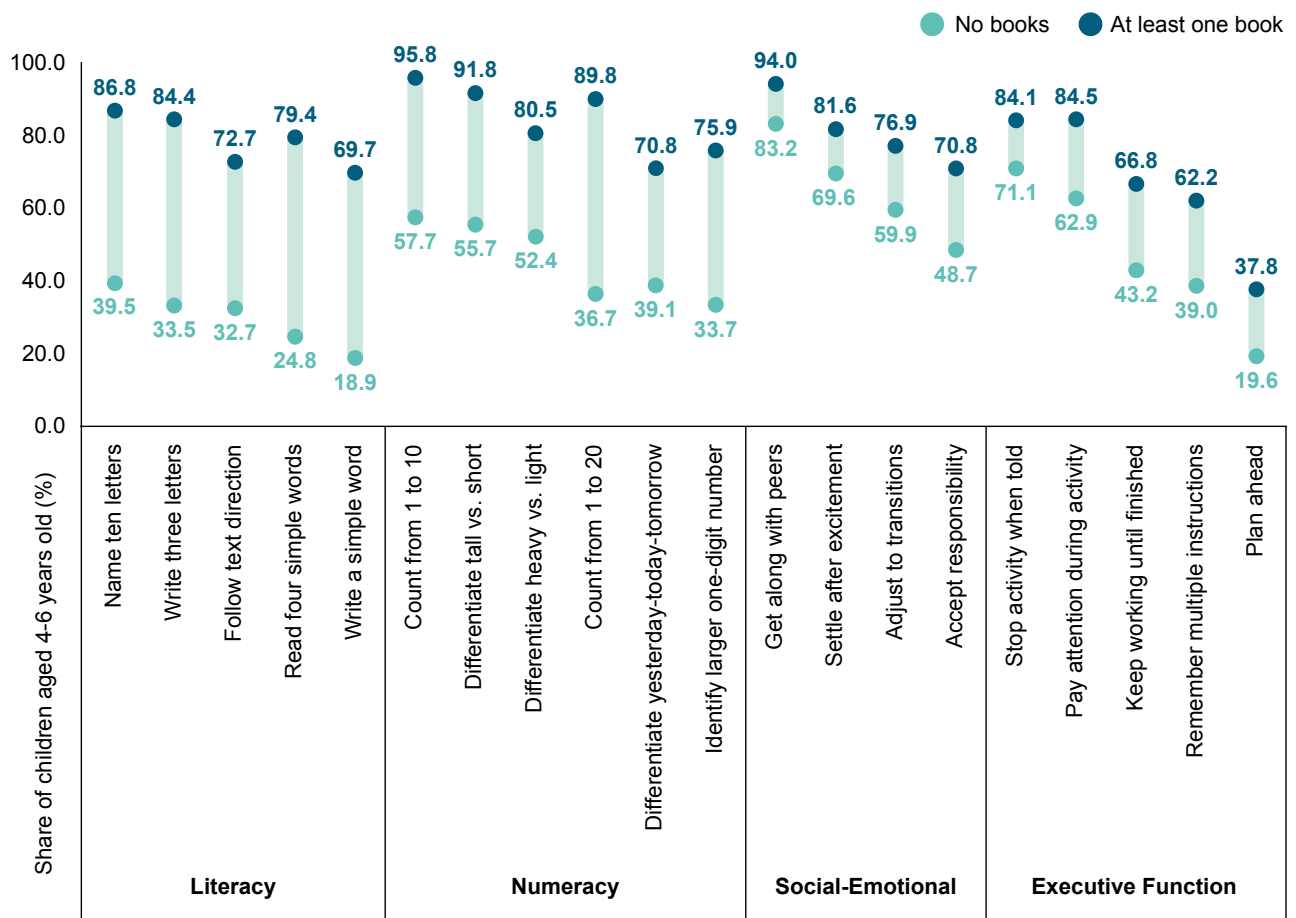
**Access to children’s literature is an important factor associated with better performance across developmental domains.** Around 17.3% of households reported having children’s books or storybooks, in addition to textbooks for school. Children who have read at least one book perform better on all tasks. For example, the share of children who can write a simple word (besides his/her name) increases from 18.9% among those with no books to 69.7% among those with at least one book -- an increase of 50.8 percentage points. This improvement is more substantial than the gains achieved when a mother’s education advances from none to secondary, and it also surpasses the performance gap between rural and urban children.

**The influence of books can be explained by at least two factors.** On the one hand, access to books could be correlated with the family’s social and economic

background. For example, only 3.8% of households where the mother has no education have a book, while in households where mothers have a secondary education, 30.5% reported having a book. Similarly, only 12.5% of households in rural areas reported having a book or storybook, compared to 29.4% in urban areas (see figure 17). Therefore, access to books is a signifier of the family’s background. On the other hand, having books can promote curiosity and motivation for learning, thereby reinforcing positive outcomes.

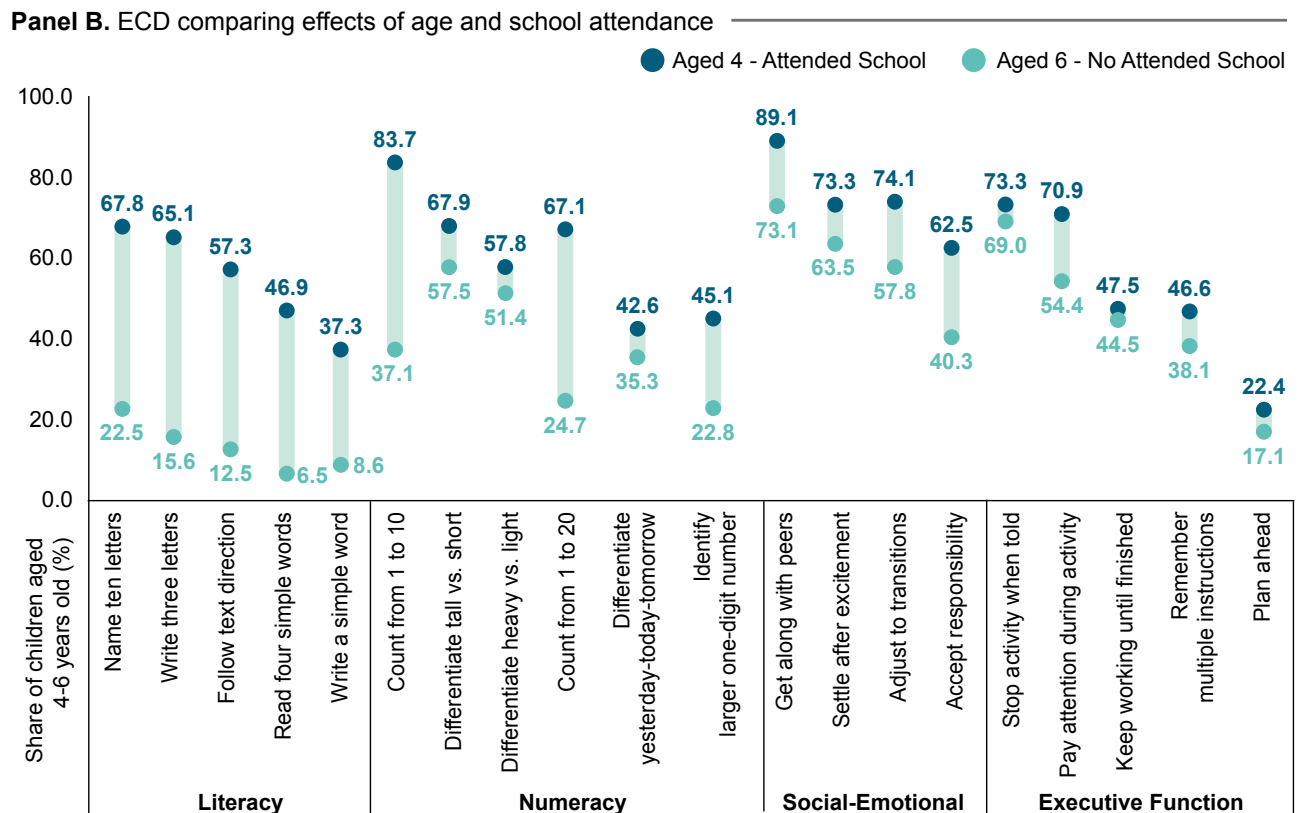
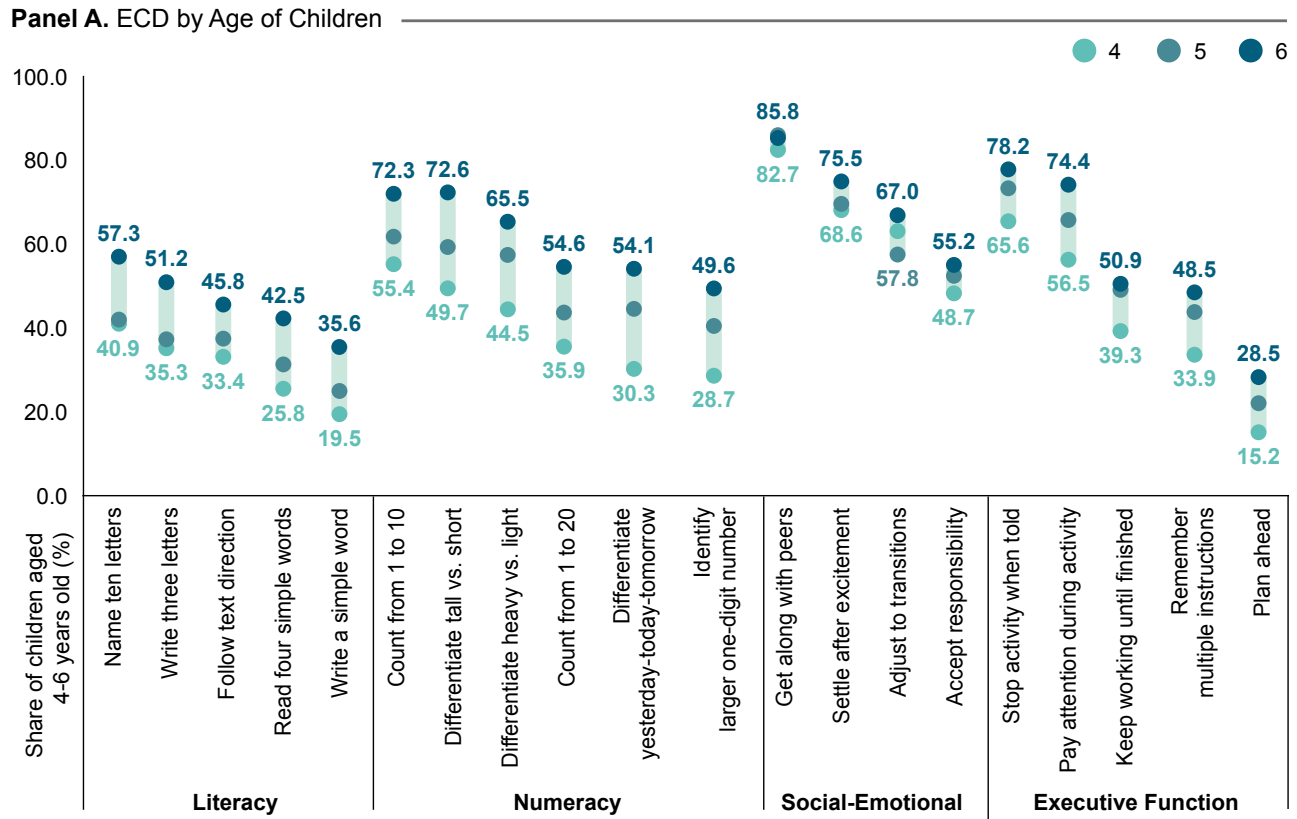
**Early childhood development (ECD) outcomes improve as children get older, but school attendance appears to have a stronger influence than age.** For example, six-year-olds demonstrate better ECD performance compared to four-year-olds (See Figure 18, Panel A). However, four-year-olds who have attended school

FIGURE 17. ECD by Book-Storybook availability (Share of children ages four to six years)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

**FIGURE 18. ECD by Age of Children and School Attendance**  
(Share of children ages four to six years)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

Note: The values represent the percentage of affirmative responses provided by caregivers. An affirmative answer indicates that the child is able to perform the activity described in the item. See Table A2 for more details.

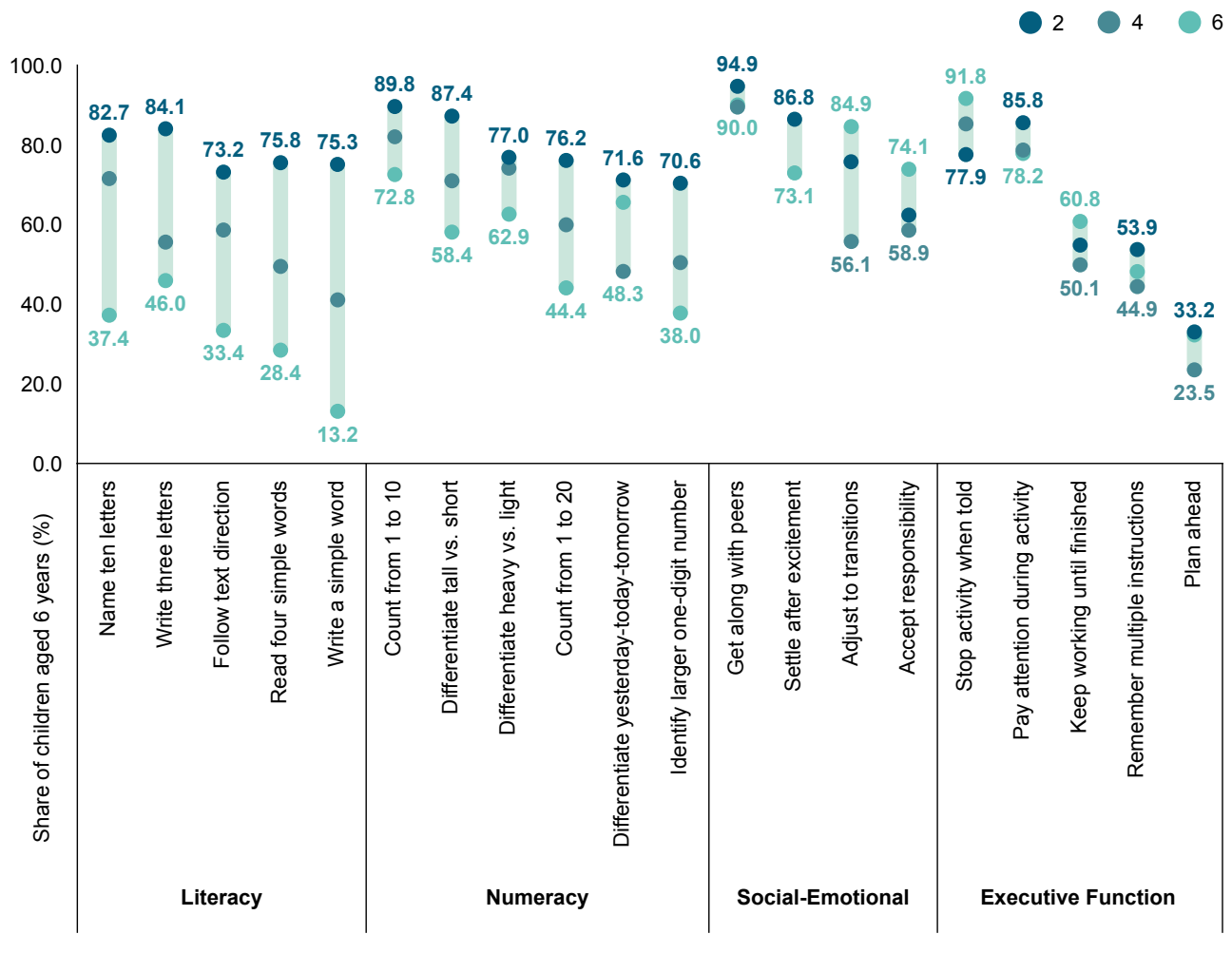
performed better on all tasks compared to six-year-olds that have not attended school (Figure 18, Panel B). This suggests that attending school at a younger age contributes positively to ECD development, particularly in numeracy skills, and may reflect the effects of family background.

**Earlier enrollment in primary school is correlated to better outcomes, particularly in the literacy domain.**

Children, aged six, who attended school/daycare at an earlier age are more likely to complete tasks successfully. For example, 75.3% of six-year-olds who started school/daycare at age two reported being able to write a simple

word besides their name, compared to 48.0% who started at age three, and this share was 41.1% at age four, 23.5% at age five, and 13.2% at age six. Similarly, 76.2% of six-year-olds who started school/daycare at age two and 75.6% at age three, reported being able to count from 1 to 20, compared to 60.1% who started at age four, 51.1% at age five, and 44.4% at age six. However, significant challenges remain among six-year-olds: 11.6% reported being able to complete only two or fewer tasks, and just 4.2% can complete all 20 tasks (see figure 19). It is relevant to note that age seems to not be a clear factor in the results in the executive function domain.

FIGURE 19. ECD by Age at School Entry (as share of 6 years-old children)



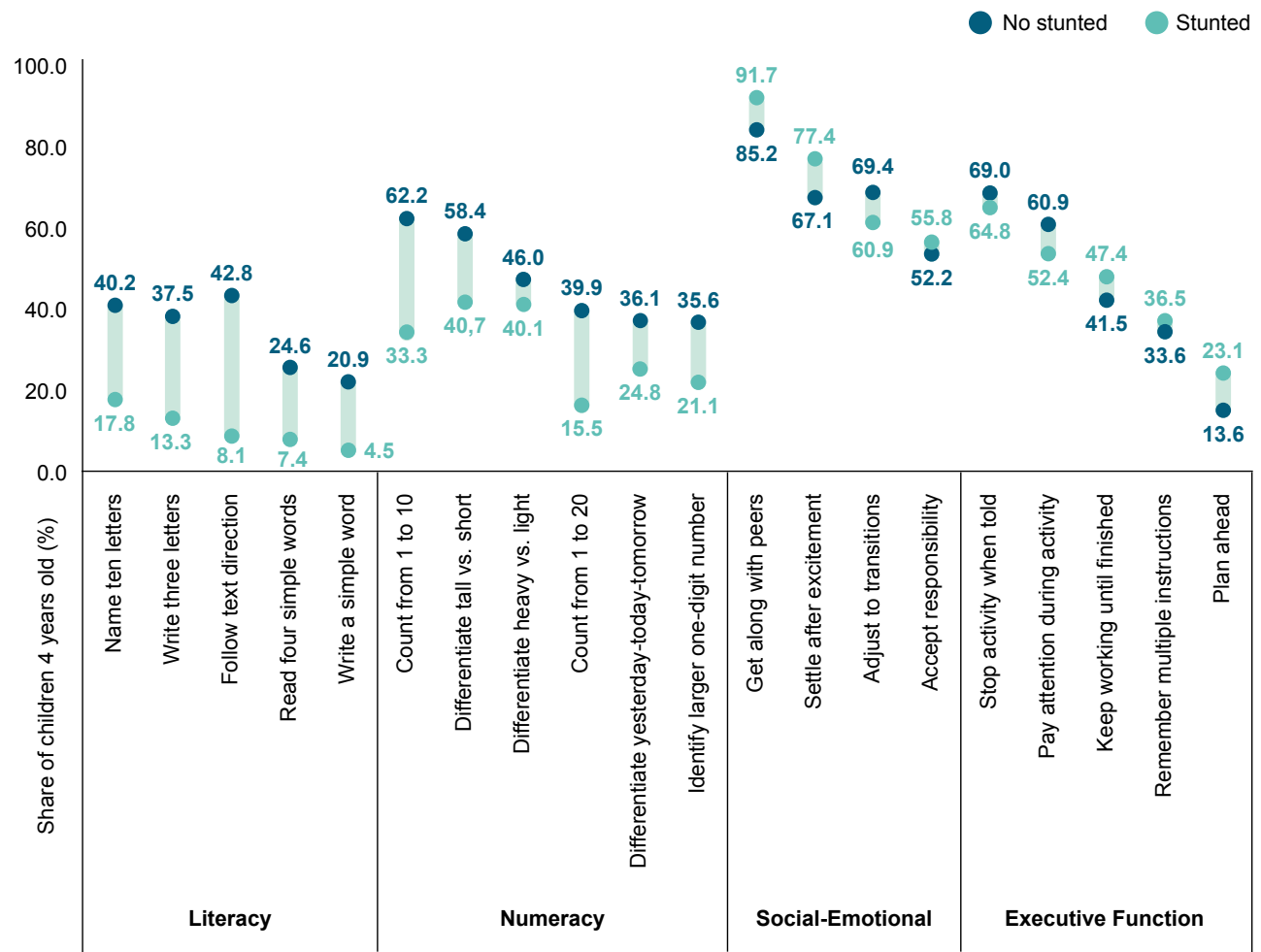
Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

Note: The values represent the percentage of affirmative responses provided by caregivers. An affirmative answer indicates that the child is able to perform the activity described in the item. See Table A3 for more details.

**Stunting in children significantly affects performance, particularly in literacy and numeracy.** In literacy, only 4.5% of stunted children could write a simple word, compared to 20.9% of non-stunted children and 15.6% at the national level. Similarly, in numeracy, just 33% of stunted children could count from 1 to 10, whereas 62.2% of non-stunted children achieved this task, compared to 52.8% nationally. The gaps in the Executive Functioning and Social-Emotional domains were narrower. For instance, 52.4% of stunted children could pay attention during an activity, compared to 60.9% of non-stunted children, and 58.1% at the national level. Interestingly, in

some EF&SE tasks, stunted children performed slightly better than their non-stunted peers, a notable contrast to the pronounced disparities seen in literacy and numeracy (see Figure 20).

**FIGURE 20.** ECD by stunting status (Share of children 4 years old)



Source: own elaboration with data from General Household Survey, Panel 2023-2024 Wave 5.

Notes: (i) this figure included children, aged four years (N=222). (ii) Stunting refers to children being too short for their age, signaling chronic malnutrition. (iii) The values represent the percentage of affirmative responses provided by caregivers. An affirmative answer indicates that the child is able to perform the activity described in the item.



## Key takeaways and policy implications

# 4

**The report's findings underscore the importance of enhancing guidelines and tools for the timely assessment of ECD.** The World Bank developed the [AIM-ECD](#) Caregiver Report, a robust tool for assessing literacy, numeracy, executive functioning, and socioemotional development among preschoolers. In the GHS-Panel (wave 5), a specialized module on early childhood development (ECD) was incorporated for children, aged four-to-six years. This module combines caregiver reports to capture key indicators of development, such as early literacy and numeracy skills, cognitive abilities, and socio-emotional behaviors indicated by the AIM-ECD. By using standardized tasks and questions, the survey captures reliable data on children's developmental progress across diverse regions. The results can inform the design of public policies and targeted interventions. For example, policymakers can use the findings to identify regional disparities in early childhood care and education, tailor interventions to local needs, and prioritize investments.

**Investing in children's development is key for Nigeria to harness its demographic dividend.** Nigeria needs to establish conditions that support its shift from a predominantly youthful population to a working-age majority, while accounting for regional variations. While the growing share of working-age individuals offers potential to boost productivity and living standards, unlocking this "demographic dividend" requires effective investments in education and health. Resource allocation must prioritize both immediate and long-term benefits, including the impact of ECD investments.

**Nigeria's regional disparities, rooted in social and economic imbalances, demand tailored strategies.** Poverty is clustered in northern Nigeria and in rural areas.

Conflicts have become more widespread in the past two decades, especially in the north (World Bank, 2022d). Educational enrollment in Nigeria varies widely by region. While over 90% in the south have attended some school, only 61% have in the North East, and this is similar with school attendance. Regional disparities are also visible in the number of ECD tasks successfully completed. For example, 74.0% of children in urban areas can complete 11 or more tasks, compared to only 41.7% in rural areas. Substantial disparities are evident across geographical zones, with a lower share of children reported being able to perform tasks in Northern Nigeria compared to Southern regions. These challenges and variations call for context-specific solutions.

**School enrollment and early entry age strongly influence academic performance and should be promoted along with quality education improvements.** Increasing access to education may not necessarily require building new schools but should include optimizing existing local resources and infrastructure (World Bank, 2023a). The recent expansion of access to ECE has the potential to enhance the learning trajectory for many children. However, overly ambitious targets run the risk of sacrificing quality, as quality can be harder to achieve at scale and often decreases as systems expand (Bendini & Devercelli, 2022). High-quality early childhood education is essential and can enhance child development and lay a strong foundation for future learning.

**Results highlight the influence of family background, with a mother's education level closely linked to her child's early development.** Policy interventions should be tailored to the specific ways in which the education level of parents influences early childhood development.

Programs that build caregivers' capacity to support healthy development can substantially improve overall outcomes. Interventions include coaching caregivers at home on how to administer positive discipline, as well as promoting increased frequency of quality interventions through nurturing, protection, and stimulating activities (storytelling, singing, playing with household objects, etc.) (World Bank, 2018).

**Disparities in child nutrition across Nigeria impact ECD outcomes and should be addressed through an integrated approach.** It is essential to make sure that all children, especially the world's most disadvantaged, have health, nutrition, protection, care, and education they need to grow, learn and thrive (UNICEF, 2017). Child nutrition disparities across Nigeria impact ECD outcomes and should be addressed through an integrated approach. Stunting significantly affects children's cognitive and learning abilities, particularly in literacy and numeracy. For example, only 4.5% of stunted children can write a

simple word, compared to 20.9% of non-stunted children, while just 33% of stunted children can count from 1 to 10, far below 62.2% of their non-stunted peers. Although the gaps are narrower in the Executive Functioning & Social-Emotional (EF&SE) domain, nutrition remains a key factor in children's development.

**The module for measuring ECD enables valuable analyses and can be enhanced by incorporating additional key factors in the future.** For example, the survey analyzed in this study suggests a very small number of reported cases of children with disabilities, but this could reflect a lack of awareness about it. Research in Nigeria shows that children with disabilities often face challenges in numeracy, social-emotional learning, and executive functioning (Save the Children, 2024). Analyzing this variable in relation to outcomes across different domains could provide valuable insights, thereby helping to further understand its implications.

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## APPENDIX

### A.1. Implementation of ECD Module in National Longitudinal Phone Survey

The Nigeria National Longitudinal Phone Survey (NLPS) is a high-frequency phone survey of households designed to follow the same households over time, making it a powerful tool for studying and understanding the socio-economic impact of the COVID-19 pandemic in Nigeria<sup>10</sup>. During round 13, conducted between September and October 2024, data on Early Childhood Development (ECD) was collected. This module included the same 20 core items from the GHS-Panel Wave 5.

The ECD outcomes for children, aged four-to-six, in Nigeria reveal substantial disparities between the results from NLPS R13 and GHS-Panel Wave 5. In the literacy domain, only 31.1% of children in GHS-Panel Wave 5 can read four simple words, compared to 72.2% in NLPS R13. Similarly, in the numeracy domain, there is a 38.3 percentage point gap between the two surveys when assessing whether children can identify the larger of two one-digit numbers. Finally, in the domain of executive functioning and social-emotional competencies, only 20.4% of children in GHS-Panel Wave 5 were able to plan ahead, compared to 58.5% in NLPS R13.

The differences in ECD outcomes between NLPS R13 and GHS-Panel Wave 5 could be attributed to the respondent in each survey. In GHS-Panel W5, the respondents are predominantly female (81.9%) and younger (37.6 years on average), whereas in NLPS R13, only 21.7% of respondents are female, and are mostly household heads (77.4%). This shift in respondent demographics likely influences the reported outcomes (See Table A1.1).

This finding highlights the importance of examining how respondent characteristics interact with household dynamics, parenting practices and social expectations of early childhood development. As evidenced by the differences between NLPS R13 and GHS-Panel Wave 5, the profile of the respondent can impact the responses. For example, Cappa et. Al., (2021) found that question response can be influenced by cultural expectations and education level of the respondents. Therefore, it is essential to conduct further research on survey methods to better understand how the demographic characteristics of respondents can influence the outcomes obtained.

<sup>10</sup> This high-frequency phone survey was designed using a sub-sample of households from the General Household Survey, Panel 2018-2019, Wave 4. During the Phase 1 of the NLPS, 12 rounds of monthly phone interviews with more than 1,700 households were conducted from April 2020 to April 2021. During the Phase 2, 13 rounds of interviews were conducted with more than 2,700 households from November 2021 to September 2024.

TABLE A1.1. Balance test

Variable	(1)	(2)	(3)
	GHS-Panel W5 (Average)	NLPS R13 (Average)	P-value NLPS R13 vs GHS-Panel W5
<b>PANEL A. Household Characteristics</b>			
Household size (# of members)	8.3	8.7	(0.002)***
Dependency Ratio	1.5	1.4	(0.581)
Female-Headed Household (%)	10.9	9.5	(0.335)
Household in rural sector (%)	72.6	66.8	(0.022)**
Household in North zone (%)	67.8	67.4	(0.356)
<b>Observations</b>	<b>1,471</b>	<b>853</b>	
<b>PANEL B. Children Characteristics</b>			
Female children (%)	48.3	49.0	(0.705)
Children's Age (%)	5.1	5.1	(0.162)
Access to book (%)	16.1	46.6	(0.000)***
Female Respondents (%)	81.9	21.7	(0.000)***
Respondent's Age (years)	37.6	44.2	(0.000)***
Respondent is Household Head (%)	23.4	77.4	(0.000)***
<b>Observations</b>	<b>1,986</b>	<b>1,098</b>	

Notes: This table shows the average characteristics of the household- and individual-level variables—Panels A and B, respectively—by survey. Columns (1) and (2) present the mean for each characteristic of households and individuals interviewed in each survey. Column (3) presents the *p*-value associated with the hypothesis of the mean values across pairs of groups that are the same. For the estimation of *p*-values, we control for enumeration area (EA) fixed effects (stratification variable) and estimate standard errors at the EA level in Panel A and at the household level in Panel B. All variables are dummies except when the unit of measurement is indicated in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## A2. Tables

**TABLE A1. ECD by Type of Organization that Runs the School**  
(Share of children aged 5–14 years currently attending any level of schooling)

Domains	Anchor Items for the Measurement of ECD (Development Outcome)	National			Urban			Rural		
		Government	Private	Religious	Government	Private	Religious	Government	Private	Religious
Literacy	Name ten letters	58.2	80.7	47.6	67.1	84.6	48.1	55.0	77.0	47.5
	Write three letters	51.4	76.6	39.1	61.4	89.3	100.0	47.8	64.6	34.5
	Follow text direction	48.2	67.3	42.0	66.9	77.7	51.0	41.5	57.4	41.3
	Read four simple words	40.8	64.6	33.5	58.1	74.0	52.9	34.6	55.7	32.0
	Write a simple word	31.4	56.0	19.7	45.2	68.8	70.7	26.5	43.8	15.7
Numeracy	Count from 1 to 10	79.6	92.5	65.5	93.5	97.2	100.0	74.6	88.1	62.9
	Differentiate tall vs. short	64.7	81.8	69.8	74.5	84.9	73.7	61.2	78.8	69.5
	Differentiate heavy vs. light	58.4	74.3	60.0	59.9	79.9	74.8	57.8	69.1	58.9
	Count from 1 to 20	52.8	79.7	50.5	71.3	86.8	91.2	46.1	73.0	47.4
	Diff. yesterday.-today-tomorrow	44.9	60.2	61.6	52.7	62.4	61.1	42.0	58.1	61.6
	Identify larger one-digit number	46.8	62.1	49.7	52.9	68.7	74.6	44.7	55.8	47.8
Social-Emotional	Get along with peers	91.0	91.9	84.6	94.4	95.9	82.4	89.8	88.1	84.7
	Settle after excitement	75.8	80.1	72.3	76.2	79.9	62.6	75.7	80.3	73.0
	Adjust to transitions	67.9	72.1	61.0	74.7	73.6	74.7	65.5	70.6	60.0
	Accept responsibility	53.0	66.6	51.5	61.7	71.3	72.5	49.8	62.1	49.9
Executive Function	Stop activity when told	79.4	81.6	70.4	90.1	85.9	49.0	75.5	77.5	72.1
	Pay attention during activity	76.1	80.4	75.3	84.1	88.2	79.5	73.3	73.0	75.0
	Keep working until finished	47.5	57.6	50.2	52.0	65.1	51.0	45.9	50.6	50.1
	Remember multiple instructions	45.7	55.9	48.4	51.1	60.6	58.9	43.8	51.5	47.5
	Plan ahead	20.9	30.5	30.4	24.2	40.1	53.8	19.7	21.4	28.6

**TABLE A2. ECD by Age of Children and School Attendance**  
(as share of children aged 4-6 years old)

Domains	Anchor Items for the Measurement of ECD (Development Outcome)	All	Children's age			Attended			Have Never Attended		
			4	5	6	4	5	6	4	5	6
Literacy	Name ten letters	47.7	40.9	42.3	57.3	67.8	63.3	70.0	13.7	15.9	22.5
	Write three letters	42.3	35.3	37.7	51.2	65.1	57.1	64.1	5.2	13.3	15.6
	Follow text direction	39.6	33.4	37.5	45.8	57.3	53.7	57.9	9.3	17.2	12.5
	Read four simple words	34.3	25.8	31.6	42.5	46.9	47.9	55.6	4.5	11.2	6.5
	Write a simple word	27.7	19.5	25.3	35.6	37.3	40.2	45.4	1.5	6.4	8.6
Numeracy	Count from 1 to 10	64.2	55.4	62.1	72.3	83.7	80.6	85.1	26.9	38.8	37.1
	Differentiate tall vs. short	61.9	49.7	59.5	72.6	67.9	70.1	78.0	31.3	46.1	57.6
	Differentiate heavy vs. light	57.2	44.5	57.8	65.5	57.8	65.5	70.6	31.1	48.1	51.4
	Count from 1 to 20	45.8	35.9	43.8	54.6	67.1	64.8	65.5	4.3	17.4	24.7
	Diff. yesterday-today-tomorrow	44.6	30.3	44.8	54.1	42.6	54.1	61.0	17.9	33.3	35.3
	Identify larger one-digit number	41.0	28.7	40.8	49.6	45.1	54.1	59.3	12.1	24.0	22.8
Social-Emotional	Get along with peers	85.1	82.7	86.2	85.8	89.1	89.7	90.4	76.3	81.7	73.1
	Settle after excitement	71.7	68.6	69.9	75.5	73.3	75.2	79.8	63.9	63.3	63.5
	Adjust to transitions	62.8	63.4	57.8	67.0	74.1	61.4	70.3	52.5	53.2	57.8
	Accept responsibility	52.5	48.7	52.6	55.2	62.5	56.4	60.6	34.8	47.8	40.3
Executive Function	Stop activity when told	73.3	65.6	73.9	78.2	73.3	77.4	81.6	57.8	69.5	69.0
	Pay attention during activity	66.7	56.5	66.0	74.4	70.9	74.8	81.7	41.9	54.9	54.4
	Keep working until finished	47.2	39.3	49.2	50.9	47.5	54.7	53.2	31.1	42.4	44.5
	Remember multiple instructions	43.0	33.9	43.9	48.5	46.6	50.6	52.3	21.1	35.5	38.1
	Plan ahead	22.8	15.2	22.2	28.5	17.1	27.8	30.7	13.4	15.2	22.4

**TABLE A3. ECD by Age at School Entry**  
(as share of children aged 6 years old)

Domains	Anchor Items for the Measurement of ECD (Development Outcome)	All	6 years-old children, by age at school entry				
			2	3	4	5	6
Literacy	Name ten letters	70.1	82.7	78.0	71.8	57.5	37.4
	Write three letters	63.9	84.1	71.0	55.8	45.7	46.0
	Follow text direction	57.8	73.2	59.0	58.7	49.1	33.4
	Read four simple words	55.7	75.8	60.9	49.7	42.7	28.4
	Write a simple word	44.9	75.3	48.0	41.1	23.5	13.2
Numeracy	Count from 1 to 10	84.9	89.8	87.7	82.1	82.9	72.8
	Differentiate tall vs. short	78.2	87.4	81.0	71.3	77.5	58.4
	Differentiate heavy vs. light	70.6	77.0	67.1	74.4	68.8	62.9
	Count from 1 to 20	65.2	76.2	75.6	60.1	51.1	44.4
	Diff. yesterday-today-tomorrow	60.7	71.6	56.3	48.3	62.1	65.6
	Identify larger one-digit number	59.4	70.6	61.4	50.5	60.0	38.0
Social-Emotional	Get along with peers	90.3	94.9	91.1	89.9	84.8	90.0
	Settle after excitement	79.9	86.8	76.7	86.5	75.0	73.1
	Adjust to transitions	70.1	76.0	73.0	56.1	63.9	84.9
	Accept responsibility	60.0	62.5	63.3	58.9	47.6	74.1
Executive Function	Stop activity when told	81.8	77.9	77.8	85.5	84.6	91.8
	Pay attention during activity	81.4	85.8	80.9	78.9	80.8	78.2
	Keep working until finished	52.9	54.9	56.9	50.1	43.7	60.8
	Remember multiple instructions	52.4	53.9	59.4	44.9	48.1	48.3
	Plan ahead	30.8	33.2	32.2	23.5	30.9	32.2



