

Albert, Jose Ramon; Monterola, Sheryl Lyn C.; Cabalfin, Deanne Lorraine D.;  
Mahmoud, Mohammad A.

**Working Paper**

## Out-of-school children in the Philippines: Post-pandemic realities and emerging challenges at the educational spectrum extremes

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## **Out-of-School Children in the Philippines: Post-Pandemic Realities and Emerging Challenges at the Educational Spectrum Extremes**

*Jose Ramon G. Albert, Sheryl Lyn C. Monterola, Deanne Lorraine D. Cabalfin, and Mohammad A. Mahmoud*

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### **CONTACT US:**

RESEARCH INFORMATION DEPARTMENT  
Philippine Institute for Development Studies

18th Floor, Three Cyberpod Centris - North Tower  
EDSA corner Quezon Avenue, Quezon City, Philippines

 <https://www.pids.gov.ph>

 [publications@pids.gov.ph](mailto:publications@pids.gov.ph)

 (+632) 8877-4000

Out-of-School Children in the Philippines: Post-Pandemic  
Realities and Emerging Challenges at the Educational  
Spectrum Extremes

Jose Ramon G. Albert, Sheryl Lyn C. Monterola, Deanne  
Lorraine D. Cabalfin, and Mohammad A. Mahmoud

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## Abstract

The magnitude of out-of-school children (OOSC) in the Philippines has shown both progress and challenges in recent years. While the national OOSC rate decreased from 5.9% (1.64 million children) in 2017 to 4.1% (1.16 million children) in 2022, and further improved to 4.9% in 2023, troubling increases emerged at both ends of the age spectrum: among 5-year-olds who should be in kindergarten and among senior high school-aged children (16-17 years). This study employs a mixed-methods approach, analyzing Philippine Statistics Authority (PSA) surveys including the Annual Poverty Indicator Survey, the Family Income and Expenditure Survey, and the Labor Force Survey alongside Department of Education administrative records. The study combines descriptive statistical analysis with econometric modeling using logistic regression to identify determinants of school non-participation. It also provides estimates of children in seven dimensions of exclusion (that includes both children currently not in school and those at risk of dropping out). Primary data collection involves key informant interviews with DepEd field staff, school heads, teachers, parents, and learners, including those who are OOSC. The study reveals remarkable system resilience during the COVID-19 pandemic, with recovery to below pre-pandemic levels by 2022, while new age-specific barriers have emerged requiring targeted interventions. Logistic regression results identify work status as the strongest predictor of non-attendance among high school-aged children (35 percentage point effect), followed by marriage (67 percentage point effect), while household income effects strengthened during the pandemic period, particularly for younger children. Female children consistently show lower probability of being out of school across all age groups, and substantial regional variation persists even after controlling for household characteristics. Fieldwork from four study sites identified factors exacerbating these risks. These include digital distractions and peer pressure among older youth (e.g., late-night gaming leading to chronic absenteeism), documentation barriers delaying kindergarten entry, and geographic isolation in rural areas. Policy recommendations are anchored in a comprehensive seven-pillar approach designed to holistically address out-of-school children (OOSC) challenges across age groups, sexes, and regions. The first pillar focuses on School Age Entry Advocacy, addressing the "too young" barrier through targeted campaigns that recognize disparities, particularly affecting 79% of boys and 77% of girls. The second pillar, Child Find, implements systematic mapping to enable precise, targeted interventions. Modern Pedagogy forms the third pillar, integrating educational technology with engaging teaching methods to make learning more accessible. The fourth pillar, HTHT (Human-Technology-Human Touch), emphasizes technology-enhanced learning with critical human connections. Economic Rebalancing constitutes the fifth pillar, directly addressing work-versus-education trade-offs that disproportionately impact different demographic groups. The sixth pillar, Enhanced Accelerated Education, provides condensed timelines, skills training, and internships to recapture and reintegrate out-of-school children. The final pillar, Supportive Ecosystems, can buffer barriers to schooling hidden from surveys. This multifaceted approach recognizes the complex, intersectional nature of educational exclusion, offering nuanced strategies to address systemic barriers across different age groups, genders, and regional contexts.

**Keywords:** out-of-school children, education access, kindergarten, senior high school, Philippines, educational policy

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## **1. Introduction**

The Philippine Institute for Development Studies (PIDS) released the first comprehensive study on Out-of-School Children (OOSC) aged 5 to 15 in 2012 (PIDS 2012) as part of about two dozen country studies for the Global OOSC Initiative of the United Children's Fund (UNICEF). In 2015, the Department of Education (DepEd) officially accepted the study with some extra data updates (David and Albert 2015). This study provided crucial insights into the magnitude, patterns, and causes of educational exclusion in the Philippines. The study led to the publication of a series of papers that examined various aspects of the OOSC challenge, from demographic trends to regional disparities and underlying socioeconomic drivers (Albert et al. 2012a; 2012b; David and Albert 2012; Albert 2012). Since then, the PIDS has been occasionally working on coming up with updates on this research (David and Albert 2015; David et al. 2018). The current study represents a critical update to this body of work, conducted in a dramatically altered educational landscape shaped by the full implementation of the K-12 program, the COVID-19 pandemic, and evolving socioeconomic conditions.

Data from recently conducted nationally representative surveys conducted by the Philippine Statistics Authority (PSA), specifically the latest waves of the Annual Poverty Indicator Survey (APIS), reveals a remarkable story of educational system resilience and emerging challenges that demand strategic policy attention. Prior to the COVID-19 pandemic, the Philippines demonstrated a successful trajectory in reducing OOSC numbers, with rates declining from 5.9% (1.64 million children) in 2017 to 4.3% (1.22 million children) in 2019, representing a substantial reduction of 420,000 children who gained access to education. The pandemic tested this progress significantly, pushing OOSC rates to 6.4% (1.81 million children) in 2020. However, the system demonstrated remarkable recovery capacity, with rates falling to 4.1% (1.16 million children) by 2022—below even the 2017 baseline—and continuing improvement to 4.9% in 2023, representing a total reduction of 650,000 children from the pandemic peak.

Global data indicates that approximately 16% of children and youth covering primary to upper secondary levels are not attending school worldwide (UNESCO-UIS 2022). At the primary level, one out of ten children globally are not in school. Against this global context, the Philippines' achievement in reducing OOSC rates below 5% represents significant progress, though persistent challenges remain in specific age groups and regions, particularly BARMM with 12.8% OOSC rate in 2023.

Three major transformations have reshaped the educational landscape since the original PIDS study. First, the full rollout of the K-12 program, which mandated kindergarten education and added two years of senior high school, fundamentally altered the educational landscape (David

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\* The first authors is senior research fellow of the Philippine Institute for Development Studies (PIDS). The second author is a Director, of the University of the Philippines National Institute for Science and Mathematics Education Development (UP NISMED). The third and fourth authors are supervising research specialist and research analyst, also of the PIDS. The views expressed here are the authors' own.

and Albert 2015; Abrigo and Francisco 2024). Second, the COVID-19 pandemic introduced unprecedented disruptions to education delivery, creating new barriers and exacerbating existing ones. Third, the nature of remaining OOSC has evolved, requiring more targeted and sophisticated interventions to address what may be increasingly entrenched barriers to educational participation.

The current analysis reveals concerning patterns at the educational spectrum extremes that require immediate policy attention. Among kindergarten-aged children (5 years), the primary barrier identified is parental perceptions about school readiness, with 79% of boys and 77% of girls considered "too young to go to school." For senior high school-aged youth (16-17 years), complex life transition challenges emerge, with 38% of girls facing marriage and family pressures compared to only 11% of boys, alongside nearly equal rates of lack of interest (39% for boys, 38% for girls). These age-specific patterns suggest that successful OOSC reduction strategies must move beyond traditional poverty-focused interventions to address developmental and life-course specific barriers.

The study aims to: (1) provide updated estimates of OOSC magnitude and rates with particular attention to age-specific trends; (2) profile current OOSC populations and their families, examining reasons for educational exclusion; (3) analyze the determinants of being out of school using econometric modeling; (4) evaluate the effectiveness of current intervention programs; and (5) recommend targeted policies to address emerging challenges, particularly for kindergarten-aged children and senior high school students.

## **2. Review of Related Literature**

### **2.1. *Global and Regional OOSC Trends***

International evidence demonstrates that out-of-school children remain a persistent global challenge despite significant progress in educational access over the past two decades. UNESCO Institute for Statistics data indicates that progress in reducing OOSC numbers stagnated in recent years, with approximately 244 million children and youth aged 6 to 17 remaining out of school globally as of 2021 (UNESCO-UIS 2022). The COVID-19 pandemic exacerbated these challenges, with UNICEF estimating that pandemic-related school closures affected 1.6 billion learners worldwide and potentially increased the number of out-of-school children significantly (UNICEF 2021).

Regional patterns show considerable variation in both OOSC prevalence and the primary barriers to educational participation. In Southeast Asia, countries have made substantial progress in primary education access, but challenges persist at the pre-primary and secondary levels (SEAMEO 2019). The Philippines' regional neighbors face similar challenges with kindergarten participation and senior secondary completion, suggesting that these may be systemic issues related to education system structure rather than country-specific problems (Cheng et al. 2020).

### **2.2. *Determinants of Educational Exclusion***

Research on the determinants of educational exclusion consistently identifies poverty as the most significant barrier to school participation across different contexts. Maligalig et al. (2010) demonstrated that household expenditure serves as a robust predictor of school attendance, with each one percent increase in expenditure associated with increased odds of attending

school. Previous studies (e.g. PIDS 2012; David and Albert 2015; David et al. 2018) have documented the persistence of poverty as a primary driver of educational exclusion.

Parental education, particularly maternal education, emerges as another consistent predictor of children's educational participation. David and Albert (2015) found that children with mothers who have attained higher levels of education are significantly less prone to being out of school, reflecting both the direct effects of parental educational support and indirect effects through household economic status and educational aspirations. The intergenerational transmission of educational disadvantage represents a crucial mechanism through which educational inequality is perpetuated across generations.

Gender dynamics in educational participation have evolved significantly over time, with traditional patterns of female disadvantage giving way to more complex patterns that vary by age group, region, and socioeconomic status. Evidence from the Philippines also indicates that boys are now more likely to be out of school than girls, particularly at the secondary level (David et al. 2018). This pattern reflects changing labor market opportunities, cultural expectations, and educational experiences that may favor girls' educational persistence.

### ***2.3. Age-Specific Challenges in Educational Participation***

Previous studies (e.g. PIDS 2012; David and Albert 2015; David et al. 2018) have identified distinct patterns of educational exclusion across different age groups, suggesting that barriers to school participation evolve as children develop and face different social, economic, and developmental challenges.

Early childhood education research emphasizes the importance of parental attitudes and community perceptions about school readiness, particularly for kindergarten-aged children where family decisions about educational timing can significantly impact access (Bendini and Devercelli 2022). Early childhood education participation presents distinct challenges related to parental perceptions of school readiness, availability of quality programs, and competing priorities for young children's time. Research on kindergarten participation in the Philippines reveals that delayed entry remains common despite mandatory kindergarten policies, with parents often citing concerns about children's developmental readiness or preferring to keep young children at home (Futalan et al., 2023). The transition to mandatory kindergarten under the K-12 program created new expectations for educational participation that may not align with traditional parenting practices or community norms.

Primary education studies have traditionally focused on basic access barriers including poverty, health issues, and geographic isolation. However, emerging research suggests that as fundamental access barriers are addressed, more complex and individualized factors may become prominent drivers of educational exclusion among primary-aged children (Albert et al. 2012a).

Secondary education presents distinct challenges related to academic engagement, particularly among adolescent boys who may experience higher rates of academic disengagement and dropout. Research has linked secondary school dropout to early academic struggles, particularly in foundational skills like reading, suggesting that primary education quality significantly influences secondary education outcomes (David et al. 2018).

For older adolescents, research identifies complex life transition challenges that intersect education with employment, family responsibilities, and social expectations. Gender-specific patterns often emerge at this stage, with girls facing different barriers related to family expectations and marriage pressures compared to boys who may face different employment and social pressures (Lapuz 2023).

Senior high school completion represents a different set of challenges related to opportunity costs, program relevance, and transition planning. The addition of two years of senior high school under the K-12 program extended the period of educational dependence for families while potentially creating new barriers related to program choice, geographic access, and economic sustainability (Abrigo and Orbeta, 2023). Early evidence suggests that senior high school dropout rates remain elevated, particularly among male students and those from economically disadvantaged backgrounds.

#### *2.4. Post-Pandemic Educational Disruption*

The COVID-19 pandemic created unprecedented disruptions to educational systems worldwide, with varying impacts on different populations and regions. International research documents significant increases in school dropout rates during pandemic periods, with recovery patterns varying substantially across different contexts and intervention approaches (UNESCO-UIS 2022). Haimovich et al. (2021) found that pandemic-related school closures disproportionately affected students from disadvantaged backgrounds, potentially exacerbating existing educational inequalities. The shift to remote learning highlighted digital divide issues that had previously been less visible, creating new barriers to educational participation for students without reliable internet access or appropriate technology.

Regional variations in pandemic impact have been documented across different countries, with some areas showing greater resilience than others depending on factors such as infrastructure quality, socioeconomic conditions, governance capacity, and the effectiveness of emergency response measures. These differential impacts provide insights into system vulnerabilities and adaptive capacities that influence educational recovery trajectories (UNICEF 2021).

Research on educational recovery patterns suggests that system resilience depends on multiple factors including pre-existing infrastructure, policy frameworks, community support systems, and the ability to adapt delivery modalities during crisis periods. Understanding these factors is crucial for building more resilient educational systems that can maintain access during future emergencies.

Philippine-specific evidence on pandemic impacts remains limited, but emerging research suggests that the transition to modular and online learning created significant challenges for many students and families. Lapuz (2023) identified increased dropout risk among students who struggled with independent learning modalities, while Mae (2023) documented connections between pandemic-related economic stress and educational participation decisions. The long-term effects of pandemic-related educational disruption may continue to influence OOSC patterns for several years.

#### *2.5. Intervention Effectiveness Research*

Research on OOSC intervention effectiveness reveals mixed results across different types of programs and target populations. Conditional cash transfer programs, such as the Philippines'

4Ps program, have shown positive impacts on primary education enrollment and attendance, though their effectiveness may vary by age group and specific barriers faced by families (Catubig and Villano 2017).

Alternative learning modalities, including the Alternative Learning System (ALS), provide important pathways for educational re-entry, though program effectiveness depends on quality implementation, community support, and alignment with learner needs and circumstances (Albert et al. 2024). Yamauchi et al. (2016) emphasized the importance of ALS programs for reaching marginalized populations but noted challenges related to program recognition, quality assurance, and transition pathways to formal education or employment.

Conditional cash transfer programs, particularly the Pantawid Pamilyang Pilipino Program (4Ps), have been extensively studied as interventions to increase educational participation. Catubig and Villano (2017) found positive effects of 4Ps participation on school attendance and completion rates, though effect sizes varied across different regions and demographic groups. Orbea and Paqueo (2016) provided more nuanced analysis suggesting that program effectiveness depends significantly on implementation quality and complementary services.

Early warning systems and dropout prevention programs show promise in identifying at-risk students before they leave school, though implementation effectiveness varies significantly across different contexts and depends heavily on system capacity and resource availability (Haimovich et al. 2021). Bowers (2021) reviewed international evidence on digital early warning systems, finding that technology-enhanced approaches can improve identification of at-risk students but require significant investment in data systems and staff training. Philippine applications of early warning approaches remain limited, representing a potential area for future development. The scalability and cost-effectiveness of such systems remain important considerations for policy development.

## **2.6. *Generation-Specific Educational Needs***

Emerging literature on generational differences in learning preferences and educational engagement suggests that current students may have different needs and expectations compared to previous cohorts. Duisenbekova (2023) described characteristics of Generation Alpha students who have grown up with digital technology and may require different pedagogical approaches. Holubova (2024), as well as Jukić and Škojo (2021) discussed implications for educational design, suggesting that traditional classroom approaches may be less effective for students who expect more interactive and technology-integrated learning experiences.

Understanding generational characteristics and technological expectations is becoming increasingly important for designing educational programs that effectively engage contemporary learners and prevent disengagement that can lead to dropout. These generational considerations may be particularly relevant for understanding why traditional approaches to addressing educational exclusion may be less effective for current cohorts of students. The intersection of generational changes with post-pandemic educational disruption creates a complex environment where educational institutions must adapt to serve students with different expectations and experiences than previous generations.

### 3. Data and Methods

#### 3.1. Conceptual Framework

This study employs a comprehensive mixed-methods approach that triangulates quantitative and qualitative data sources to examine OOSC trends, determinants, and intervention effectiveness. The framework enables detailed evaluation of education access patterns, persistent and emerging barriers, and policy responses across different regions and demographic groups, with particular emphasis on understanding why OOSC magnitude has increased at both ends of the age spectrum.

The conceptual framework builds on the established OOSC analytical tradition while incorporating new dimensions relevant to the post-K12 and post-pandemic context. The approach recognizes that educational exclusion operates through complex interactions between household decision-making processes, community factors, and systemic barriers within the education system itself. This framework particularly emphasizes the need to understand how policy changes, economic disruptions, and social transformations have created new patterns of educational exclusion that may not be adequately captured by traditional analytical approaches.

The analytical foundation of this study aligns with the Out-of-School Children Initiative (OOSCI) methodology developed by UNICEF and the UNESCO Institute for Statistics (UIS), which organizes educational exclusion into seven dimensions of exclusion (7DE). This framework distinguishes between children who are currently out of school and those who are enrolled but at risk of dropping out, thereby providing a comprehensive picture of both exclusion and vulnerability within the education system.

The seven dimensions are grouped into two broad categories:

**Table 1. Seven Dimensions of Exclusion**

<b>Group</b>	<b>Dimension</b>	<b>Definition</b>
<b>A. Children currently out of school</b>	<b>D1</b> – Children of <i>pre-primary-age</i> (usually 3–5 years) who are not enrolled in pre-primary or primary education	Reflects early exclusion prior to formal schooling.
	<b>D2</b> – Children of <i>primary-age</i> (6–11 years) who are not enrolled in either primary or secondary school	Indicates missed entry or early dropout in the primary cycle.
	<b>D3</b> – Children of <i>lower-secondary-age</i> (12–14 years) who are not enrolled in primary or secondary school	Captures early adolescence exclusion before transition to upper secondary.
<b>B. Children in school but at risk of dropping out or failing to transition</b>	<b>D4</b> – Primary-age children enrolled in primary education but <i>at risk</i> of dropping out during the cycle	Risk based on attendance, repetition, or age-for-grade delay.
	<b>D5</b> – Lower-secondary-age children enrolled in lower secondary but <i>at risk</i> of dropping out during the cycle	Incorporates learning difficulties, low progression, and absenteeism.

<b>Group</b>	<b>Dimension</b>	<b>Definition</b>
	<b>D6</b> – Children enrolled in the <i>last grade</i> of a level but <i>at risk</i> of failing to transition* to the next level	Captures transition barriers between cycles (e.g., Grade 6 to 7 or Grade 10 to 11).
<b>C. Additional Dimension</b>	<b>D7</b> – Children of <i>upper-secondary-age</i> (15–17 years) who are not in school	Extends the analysis to the K-12 senior high school cohort, introduced in the Philippines in 2012.

This multidimensional structure makes it possible to analyze both exclusion and attrition risks, moving beyond simple enrollment status to identify potential bottlenecks across the learner’s life course. In the post-pandemic and post-K-12 context, applying the 7DE framework allows consistent cross-country comparison while recognizing the Philippines’ unique education cycle.

In the present study, 7DE estimates will be integrated with cross-sectional logistic regressions to understand determinants of each exclusion dimension. For instance, determinants of D1–D3 relate to household and community access factors, whereas D4–D6 focus on system-level risks of retention and transition, and D7 examines late adolescence opportunity-cost pressures. Incorporating the 7DE framework ensures conceptual coherence with UNICEF–UIS global OOSCI monitoring and facilitates comparability with previous country rounds (UNICEF & UIS 2023).

### 3.2. Data Sources and Collection Methods

#### 3.2.1 Secondary Data Analysis

The study utilizes comprehensive microdata from multiple Philippine Statistics Authority household surveys to establish OOSC prevalence estimates and examine underlying household characteristics. The Annual Poverty Indicator Survey (APIS) for 2017, 2019, and 2022 serves as the main data source for OOSC magnitude calculations, with 2024 data to be incorporated if available during the study period. These surveys provide nationally representative samples that allow for detailed demographic and socioeconomic profiling of OOSC populations across different age groups and geographic regions. The APIS data is particularly valuable for examining household-level factors that influence educational participation decisions, including poverty status, household composition, and parental characteristics.

Complementing the APIS data, the study incorporates merged Family Income and Expenditures Survey and Labor Force Survey (FIES-LFS) datasets for 2018, 2021, and 2023 to examine socioeconomic determinants of educational exclusion with greater detail on household economic circumstances and employment patterns. The FIES-LFS integration provides more nuanced understanding of how livelihood strategies, income volatility, and economic shocks affect educational participation decisions. LFS data contributes additional insights into employment and training participation patterns among youth who are not in school, helping to distinguish between those who are economically active and those who are neither in education, employment, nor training.

The integration of household survey data with DepEd administrative records represents a crucial methodological component because OOSC becomes a residual category in

administrative systems. Children who are not enrolled in any formal educational program can only be identified through household surveys, while administrative data provides the denominator for calculating participation rates. The study incorporates Basic Education Information System (BEIS) enrollment, dropout, and completion statistics along with Learner Information System (LIS) data for tracking individual student progression patterns. Alternative Learning System (ALS) participation and completion data offers insights into second-chance education provision, while National Achievement Test (NAT) results provide context on learning outcome quality that may influence retention decisions.

This methodological approach allows for comprehensive analysis of both demand-side factors, such as household decisions about educational investment, and supply-side considerations, including school system capacity and quality. The triangulation of survey and administrative data sources provides more robust estimates of OOSC magnitude while enabling detailed analysis of the factors that drive educational exclusion patterns.

### **3.2.2 Primary Data Collection**

Primary data collection involves key informant interviews (KIIs) and focus group discussions (FGDs) with DepEd field staff, school heads, teachers, parents, and learners (including OOSC) across four purposively selected study sites: urban Quezon City, rural Laguna and Negros Occidental, and semi-urban Cagayan de Oro. These yield thematic insights on "other reasons" for non-participation (e.g., peer-enabled truancy, mental health stigma), triangulating econometric findings and informing the seven dimensions of exclusion.

School-level perspectives are captured through interviews with administrators and teachers who provide operational insights into day-to-day challenges in maintaining enrollment and supporting at-risk students. These interviews are particularly valuable for understanding resource allocation perspectives, teacher workload issues, and the practical constraints that affect educational quality and accessibility. Interviews with officials of the Department of Social Welfare and Development (DSWD) implementing the 4Ps assess the effectiveness of conditional cash transfer convergence with education objectives, examining both successes and implementation gaps.

Local governance perspectives are incorporated through interviews with LGU representatives who can provide insights into community-level factors affecting educational participation, local government support for education, and the interaction between national programs and local implementation contexts. NGO leaders and civil society representatives offer alternative viewpoints and insights into regional variations in educational access challenges, particularly in areas where government services may be limited or where alternative approaches have been developed.

Focus group discussions provide community-level perspectives through systematic consultations with different stakeholder groups. Parents of OOSC participate in discussions designed to explore family decision-making processes, examining how economic constraints, cultural factors, and practical barriers influence educational choices. These discussions are particularly important for understanding the complex trade-offs that families face when allocating limited resources among competing priorities. Current learners who are identified as being at risk of dropping out provide student perspectives on school experiences, barriers to continued participation, and support needs.

Direct engagement with OOSC themselves represents a crucial component of the primary data collection, examining barriers from the perspective of excluded children and youth. These discussions explore not only the immediate reasons for leaving school but also aspirations for future educational participation and the types of support that might facilitate re-entry. Community leaders participate in discussions designed to assess local context factors, community support systems, and cultural attitudes toward education that may influence participation patterns.

Field visits to educational facilities in selected regions provide opportunities for direct observation of classroom conditions, teacher-student interactions, infrastructure adequacy, and learning environment quality. These visits also allow for observation of intervention program implementation at the school level and assessment of community engagement and parental involvement patterns. The observational component is particularly valuable for understanding supply-side factors that may not be fully captured through interviews or survey data.

### **3.3. Analytical Methods**

#### **3.3.1 Descriptive Statistical Analysis**

The study employs comprehensive descriptive analysis to map OOSC patterns across multiple dimensions, with particular attention to age-specific trends that have emerged in recent years. Age-specific OOSC rates receive special focus on 5-year-olds and 16-17 year-olds to understand the factors driving increased magnitude at these age extremes. Regional and sub-regional variations in educational access are analyzed to identify geographic patterns and assess whether certain areas are experiencing disproportionate challenges in specific age groups.

Socioeconomic profiling of OOSC households utilizes income quintiles, poverty status, and livelihood patterns to understand how economic factors interact with educational participation decisions. This analysis pays particular attention to whether the relationship between poverty and educational exclusion has changed over time and whether certain types of economic activities or income sources are more strongly associated with OOSC status. Gender-disaggregated analysis examines male-female participation gaps across different age groups and regions, building on previous findings that boys are disproportionately represented among OOSC populations.

Urban-rural differentials in school attendance patterns are analyzed to understand how geographic location interacts with other factors in determining educational access. This analysis is particularly important for understanding whether infrastructure development, transportation improvements, or changes in rural economic opportunities have affected traditional urban-rural education gaps. The descriptive analysis also examines trends over time to identify whether certain patterns are stable or changing, which has important implications for policy targeting and resource allocation.

#### **3.3.2 Econometric Modeling**

A binary logistic regression model is employed to explore the influence of socioeconomic and household factors that predict whether a school-aged child is not currently attending school for specific age groups. The general form of the logistic model is

$$P(Y_i = 1) = \text{logit}^{-1}(\beta' X_i) = \frac{1}{1 + e^{-(\beta' X_i + \varepsilon_i)}}$$

where  $P(Y_i = 1)$  represents the probability that the school-aged child  $i$  in a household is not currently attending school,  $X_i$  are explanatory variables including household and socioeconomic attributes, and  $\varepsilon_i$  is the error term.

The model incorporates key explanatory variables including the natural logarithm of household per capita income, poverty status of the household, household size and composition, and highest educational attainment of household head and mother. Employment status and industry of household head are included to capture livelihood-related factors that may affect educational participation decisions. Demographic variables include sex and age of household head, while geographic variables encompass urban(rural location and regional indicators. Program participation variables include 4Ps beneficiary status, while contextual variables incorporate regional poverty rates and pupil-teacher ratios as proxies for school quality and accessibility.

Separate regression models are estimated for different age groups to capture age-specific determinants of educational exclusion. Models for kindergarten-age children (5 years old) focus on understanding early entry barriers, including parental perceptions of school readiness, availability of kindergarten facilities, and economic factors that may delay school entry. Primary school-age children (6-11 years old) models provide comparison with historical patterns and help identify whether traditional determinants of educational participation remain relevant. Lower secondary age children (12-15 years old) models examine traditional dropout risks during the transition from elementary to secondary education. Senior high school age children (16-17 years old) models focus on completion challenges specific to the expanded K-12 system, including opportunity costs, program relevance, and transition planning.

The econometric approach recognizes that different age groups may face fundamentally different barriers to educational participation, requiring age-specific modeling to identify appropriate policy responses. The models also incorporate interaction terms to examine whether certain factors have differential effects across urban and rural areas or across different regions, recognizing that the determinants of educational exclusion may vary significantly across different contexts.

### 3.3.3 Qualitative Data Analysis

Thematic analysis of qualitative data employs systematic coding to identify patterns across different types of barriers to educational participation. Demand-side barriers encompass economic constraints, cultural factors, and family priorities that influence household educational decisions. This analysis examines how families prioritize different needs and how educational investment competes with other household expenditures or activities. Supply-side challenges include infrastructure limitations, teacher quality issues, and program adequacy concerns that affect the availability and quality of educational services.

Post-pandemic specific barriers receive particular attention, including those related to digital divide issues, health concerns, and economic disruption that may have created new obstacles to educational participation. The analysis examines how remote learning experiences, technology access limitations, and health-related school closures may have affected different groups of students differently. Age-specific challenges affecting kindergarten entry and senior

high school completion are analyzed separately to understand the distinct barriers facing these two critical transition points in the educational system.

Regional and cultural variations in educational access patterns are examined to understand how local contexts shape educational participation decisions. This analysis is particularly important for understanding whether certain communities have developed adaptive strategies or alternative approaches that could inform broader policy development. The qualitative analysis is particularly crucial for unpacking the often-cited "lack of personal interest" response in surveys, which previous PIDS research identified as requiring deeper investigation to understand the complex factors that may be represented by this seemingly simple response.

### 3.4. *Methodological Innovations*

This study introduces several methodological enhancements compared to previous OOSC research in the Philippines aligning its framework with the UNICEF–UIS Out-of-School Children Initiative (OOSCI) methodology. The age-specific deep dive approach provides systematic analysis of why OOSC magnitude increased at age extremes, with dedicated analytical frameworks for 5-year-olds and 16-17 year-olds that recognize these groups may face fundamentally different challenges requiring different policy responses. Post-pandemic lens integration ensures that COVID-19 impact assessment is incorporated across all analytical components rather than treated as a separate consideration.

#### Integration of the Seven Dimensions of Exclusion (7DE).

A key innovation is the adoption of the 7DE framework established in the *OOSCI Operational Manual (2023)*. The 7DE structure distinguishes (a) children currently out of school (Dimensions 1–3 and 7) and (b) those enrolled but *at risk* of dropping out or failing to transition between levels (Dimensions 4–6). This multidimensional approach expands the analysis from simple enrollment status toward identifying cumulative risk factors that drive exclusion across the learner’s life course.

Under this approach, the study not only measures the number and rate of out-of-school children but also examines students at risk of dropping out (SARDOs) during a cycle or transition, consistent with the *Cumulative Risk Analysis (CRA)* promoted in the Manual. Separate analytical tables and regressions are produced for each dimension to reveal age- and stage-specific determinants of exclusion. The framework enables comparability with global OOSCI estimates while capturing unique Philippine features such as the K-12 two-year senior high school cycle.

#### Use of the OOSCI Calculation Tool (Beta 5.0).

To operationalize the 7DE framework, the study employs the *OOSCI Calculation Tool (Beta 5.0)* developed by UNICEF and UIS. This Excel-based tool automates computation of OOSC and “at-risk” indicators using microdata from the *Annual Poverty Indicators Survey (APIS)* and merged *Family Income and Expenditure Survey–Labor Force Survey (FIES-LFS)* datasets, in combination with *DepEd Basic Education Information System (BEIS)* enrollment data. The tool produces standardized outputs—7DE summary tables, risk-of-dropout matrices, and disaggregated data by sex, region, and wealth quintile—which are integrated into this study’s statistical appendix (Annex Tables A-3 to A-6, and Annex Figures).

### Enhanced econometric and qualitative triangulation

In addition to descriptive 7DE statistics, the study estimates cross-sectional logistic regressions that model the probability of school non-participation and risk of dropout (D4–D6) using household and contextual factors. This hybrid approach—combining survey-based 7DE estimation, CRA-style risk modeling, and qualitative thematic analysis—allows for richer interpretation of how structural, socioeconomic, and behavioral barriers interact.

### Digital-divide and post-pandemic lenses

New variables capture technology access, device availability, and online-learning capacity to quantify post-pandemic digital inequalities as additional risk factors within the 7DE framework. These innovations align with OOSCI’s guidance on measuring *emerging forms of exclusion* in hybrid and remote-learning contexts.

### Community-centered triangulation

Complementary qualitative evidence from key informant interviews and focus-group discussions deepens understanding of local context and cultural attitudes that underpin each exclusion dimension, providing an integrated picture of both quantitative risk and lived experience.

Intervention effectiveness evaluation employs systematic assessment of ALS, 4Ps, and other programs using both quantitative outcomes and qualitative implementation insights to provide more comprehensive understanding of what works, what doesn't, and why. Digital divide assessment introduces new variables examining technology access and digital learning capabilities, recognizing that educational delivery modalities have expanded beyond traditional classroom-based instruction. Community-centered approach enhancement emphasizes community-level data collection while recognizing that educational decisions are embedded in local contexts that may not be fully captured through household-level analysis alone.

Together, these methodological enhancements advance Philippine OOSC analysis toward full compatibility with global OOSCI monitoring standards and support future integration into the UIS SDG 4.1.4 indicator system.

### **3.5. Limitations and Considerations**

The study acknowledges several methodological limitations that may affect the comprehensiveness and generalizability of findings. Survey data may underestimate OOSC populations in highly marginalized communities where survey coverage is limited, potentially leading to underrepresentation of the most vulnerable groups. Administrative data completeness varies significantly across regions and may not capture all forms of alternative education provision, particularly informal or community-based programs that operate outside official systems.

Recall bias in retrospective questions about reasons for leaving school may affect the accuracy of reported barriers, particularly for youth who left school several years ago. Social desirability bias may influence responses about educational aspirations and barriers, with families potentially providing socially acceptable explanations rather than revealing more complex or sensitive underlying factors. The cross-sectional nature of much of the data limits the ability to

establish causal relationships between interventions and outcomes, requiring careful interpretation of associational findings.

Ethical considerations encompass informed consent procedures for all primary data collection, with particular attention to protocols for interviews with children and vulnerable populations. Confidentiality protections are implemented for sensitive household information, while community consultation protocols are established for work in indigenous and conflict-affected areas where additional cultural sensitivities may apply. The study design incorporates feedback mechanisms to ensure that research findings are shared with participating communities in accessible formats that can inform local decision-making processes.

## 4. Results and Empirical Findings

### 4.1. OOSC across ASEAN

An examination of recent OOSC rates by age group across all ASEAN member states reveals that out-of-school children rates climb sharply as the age of children rise (**Table 2**). Among primary aged children, the Philippines recorded a 3.6% OOSC rate in 2022, positioning it favorably compared to Cambodia which had more than a fifth (22.1%) of its comparable children being excluded from schooling. However, the country trails those of Vietnam (1.2%) and Indonesia (0.90%), both of which have about one in a hundred primary-aged children being out-of-school. However, the OOSC challenges intensify dramatically among upper secondary-aged children, with the Philippines' OOSC rate reaching 13.8%. This rate, however, is much smaller compared to those of Indonesia (26.9%), Lao PDR (38.9%), Myanmar (52.7%) and Cambodia (53.5%), which have around a quarter to have of their upper secondary-aged children being excluded from formal schooling.

**Table 2. ASEAN OOSC Rates by Age Group (Most Recent Available Year)**

ASEAN Member State	Year	Primary			Lower Secondary			Upper Secondary		
		Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes
Cambodia	2020	23.0	21.2	22.1	34.1	32.1	33.1	56.0	50.8	53.5
Indonesia	2022	1.0	0.8	0.9	4.7	3.4	4.1	28.4	25.3	26.9
Lao PDR	2017	8.2	8.6	8.4	15.3	18.2	16.7	35.2	42.9	38.9
Myanmar	2016	5.5	7.0	6.2	15.9	17.3	16.6	55.0	50.6	52.7
Philippines	2022	4.5	2.7	3.6	7.0	3.9	5.6	17.9	9.2	13.8
Thailand	2023	4.7	3.6	4.1	6.5	3.9	5.3	20.0	10.6	15.4
Viet Nam	2021	1.1	1.3	1.2	5.6	5.2	5.4	23.1	19.9	21.5

Source: UNESCO Institute for Statistics

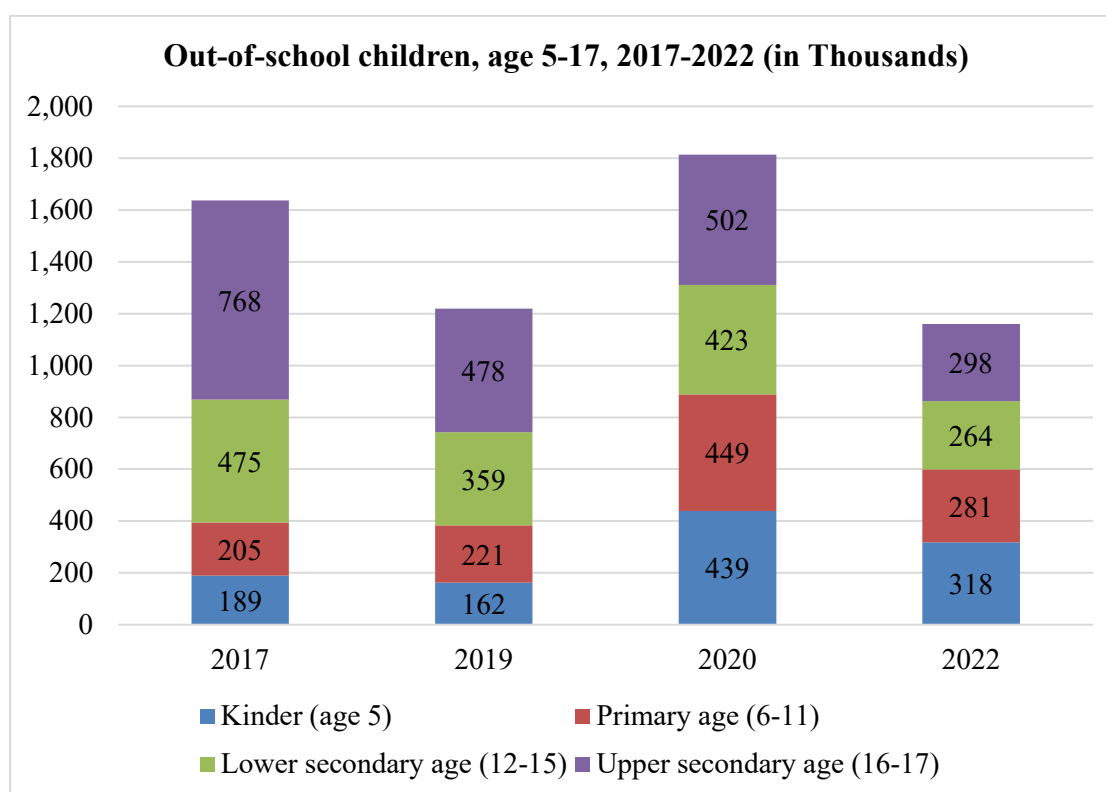
Gender disparities in the Philippines mirror patterns in most neighboring countries, with males showing higher OOSC rates than females across all educational levels. Among primary-aged children, the OOSC rate is 4.5 among males compared to females' 2.7%, while among upper secondary-aged children, the gender gap widens significantly to 17.9% for males versus 9.2% for females. This pattern reflects broader regional trends where economic and social factors increasingly pull older male children from school, suggesting that traditional gender roles and economic pressures disproportionately affect boys' access to education.

#### 4.2. National OOSC Trends: The Paradox of Overall Progress with Persistent Challenges at Age Extremes

Historical data on OOSC rates reveals a remarkable narrative of educational system resilience despite significant pandemic disruption. The pre-COVID success trajectory showed OOSC rates declining from 5.9% (1.64 million children) in 2017 to 4.1% (1.16 million children) in 2019, representing substantial progress with 476,000 fewer children out of school. The pandemic spike to 6.4% (1.81 million children) in 2020 demonstrated the system's vulnerability to external shocks, with a 593,000 increase in OOSC from 2019 levels. However, the recovery demonstrates exceptional system resilience. By 2022, OOSC rates had fallen to 4.1% (1.16 million children), actually below the 2017 baseline, with a 652,000 reduction from the pandemic peak. The continued improvement to 4.9% in 2023 suggests sustainable recovery, though this rate reflects age-expanded measurement (5-17) compared to the traditional 5-15 age range used in earlier studies.

**Figure 1** illustrates the overall trends in the number of OOSC by age group from 2017-2022, showing the clear pattern of pre-pandemic reduction, pandemic spike, and strong recovery across all age groups. The data reveals that while kindergarten-aged children and upper secondary youth experienced the most significant fluctuations, the primary and lower secondary groups showed more stable patterns.

**Figure 1. Trends on Magnitude of OOSC (in thousands) by Age Group, 2017-2022**



Source: Authors' calculations on APIS microdata 2017-2022, PSA

The emergence of concerning trends among very young children validates the study's focus on kindergarten-aged children alongside continued attention to senior high school completion. Among 5-year-olds who should be entering kindergarten, 189,000 were out of school in 2017,

declining to 162,000 in 2019, then rising dramatically to 439,000 during the pandemic year 2020, before improving to 318,000 in 2022—still 69% higher than the 2019 pre-pandemic level. These patterns suggest that early childhood education entry remains vulnerable to external shocks and has not fully recovered to pre-pandemic baselines, requiring targeted interventions to address parental readiness perceptions and community attitudes toward kindergarten education.

The expansion of OOSC analysis to include 16-17 year-olds reflects the fundamental changes brought by K-12 implementation and reveals significantly higher exclusion rates when senior high school students are included (**Table 3**). Prior OOSC studies, including the landmark PIDS (2012) report, focused primarily on the 5-15 age range, which corresponded to the pre-K-12 basic education cycle from kindergarten through Grade 10. However, with the mandatory addition of Grades 11-12 under the K-12 program, expanding the scope to ages 16-17 provides a more comprehensive picture of educational exclusion across the complete basic education spectrum. The data demonstrates that including 16-17 year-olds substantially increases measured OOSC rates, with the difference representing hundreds of thousands of additional out-of-school youth, underscoring why the senior high school completion challenge demands specific policy attention alongside traditional concerns about primary and lower secondary access.

**Table 3. Total Number (in thousands) of OOSC (and Rates in %) by Age Groupings, 2017-2022**

Age Range	2017	2019	2020	2022
5-15 years old	869 (3.7)	742 (3.1)	1,311 (5.5)	862 (3.6)
5-17 years old	1,637 (5.9)	1,220 (4.3)	1,813 (6.4)	1,160 (4.1)
Kindergarten age (5 years)	188	175	439	318
Upper secondary age (16-17)	768	478	502	298

*Source: Authors' calculations on APIS microdata 2017-2022, PSA*

The data reveals that both ends of the educational spectrum—kindergarten entry and senior high school completion—face distinct challenges that require age-specific policy responses. While upper secondary OOSC numbers have shown improvement from pandemic levels, kindergarten-aged OOSC remain substantially elevated, indicating that early childhood education access requires urgent attention to prevent long-term educational exclusion patterns.

In rural study sites like Laguna and Negros, post-Grade 6 transitions to secondary school show heightened risks due to geographic barriers (e.g., 7-8 km distances in upland barangays), while urban Quezon City highlights documentation delays affecting 20-30% of kindergarten entrants. Semi-urban Cagayan de Oro reports rebound in ALS enrollment post-pandemic but persistent SHS absenteeism tied to night work in markets.

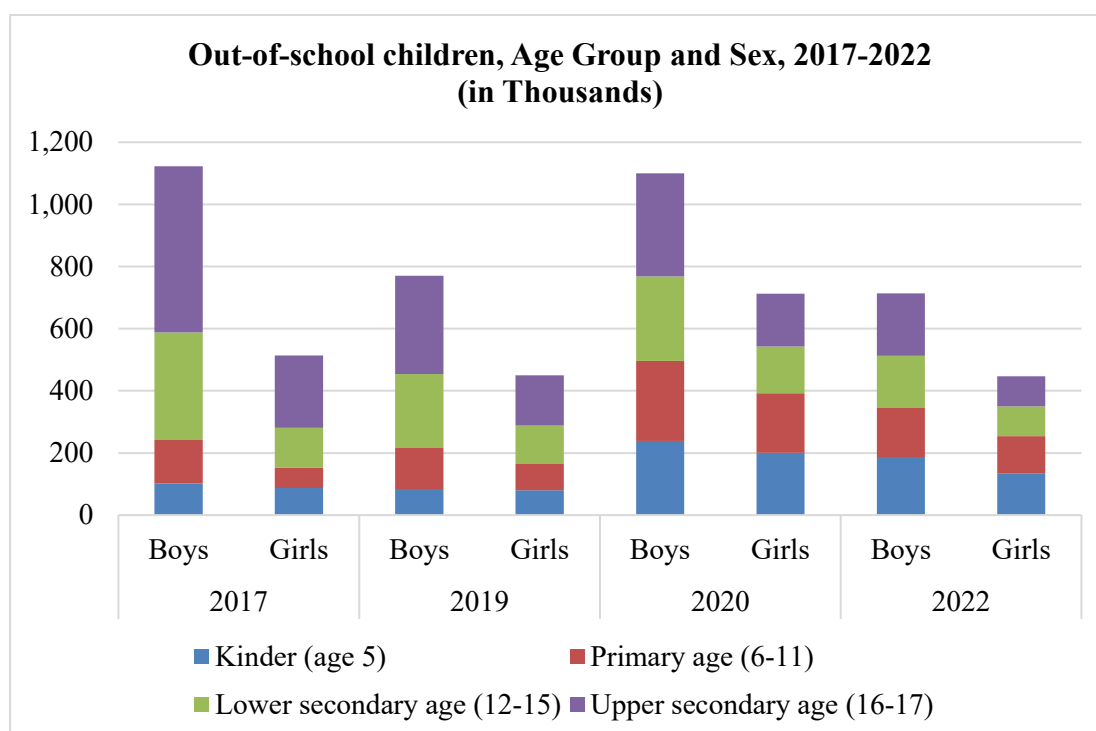
#### 4.3. Persistent Gender Disparities Across All Age Groups

Boys consistently outnumber girls among OOSC across every age group and year examined, with disparities most pronounced among older children, though the gender gap has narrowed over time (**Figure 2**). In 2020, for instance, 272,000 boys aged 12-15 were out of school versus

150,000 girls, representing a gap of over 122,000 children. Even among 5-year-olds, gender disparities are evident with 238,000 boys out of school compared to 201,000 girls. By 2022, while overall numbers declined substantially, the proportional gender gap persisted: 169,000 boys aged 12-15 were out of school versus 95,000 girls, and among 16–17-year-olds, 201,000 boys were out of school versus 97,000 girls, maintaining a ratio of approximately 2.1 boys for every girl out of school in the upper secondary age group.

The gender disparity shows varying patterns across age groups, suggesting that different factors affect educational persistence for boys and girls at different developmental stages. Among 5-year-olds in 2022, the boy-to-girl ratio of OOSC was 1.4:1 (184,000 boys vs 134,000 girls), while among 6-11 year-olds the ratio was 1.3:1 (160,000 boys vs 120,000 girls), and among 12-15 year-olds it was 1.8:1 (169,000 boys vs 95,000 girls). Overall, boys consistently represent approximately three-fifths of all OOSC across the study period, declining from 68.6% in 2017 to 61.5% by 2022, indicating gradual improvement but persistent need for gender-responsive interventions to achieve equitable educational outcomes.

**Figure 2. Distribution of OOSC (in thousands) by Age Group and Sex (Ages 5-17), 2017-2022**



Source: Authors' calculations on APIS microdata 2017-2022, PSA

The persistence of male overrepresentation among OOSC across different years, age groups, and even during pandemic disruptions suggests systematic rather than circumstantial factors driving these patterns. While both boys and girls experienced increased OOSC during the 2020 pandemic peak, boys bore a disproportionate burden, with approximately 1.1 million boys out of school compared to 713,000 girls. Even as overall numbers improved significantly by 2022 (714,000 boys vs 446,000 girls), the fundamental gender pattern remained unchanged, highlighting the need for targeted strategies that address the specific barriers preventing boys from remaining in school, particularly as they transition through adolescence and face increasing economic and social pressures that may pull them away from educational pursuits.

For instance, conditional cash transfer programs could provide differentiated incentives that account for the higher opportunity costs that boys may face, particularly in agricultural and informal economy contexts where male child labor is more common.

#### 4.4. Regional Variations: Persistent Hotspots and Pandemic-Driven Volatility

The regional analysis reveals extraordinary disparities in both pandemic impact and recovery trajectories that fundamentally challenge assumptions about uniform national progress. **Table 4** presents three distinct regional recovery OOSC patterns: exceptional recoverers, stable improvers, and concerning deteriorators, each requiring fundamentally different policy approaches.

**Table 4. OOSC Counts in thousands (and Rates) by Region, 2017-2022**

Region	2017	2019	2020	2022	Change 2017-2022
<b>Region I - Ilocos</b>	61 (4.7%)	35 (2.6%)	129 (9.8%)	17 (1.3%)	-44 (-3.4 pp)
<b>Region II - Cagayan Valley</b>	64 (6.7%)	26 (2.9%)	97 (10.5%)	17 (1.9%)	-46 (-4.8 pp)
<b>Region III - Central Luzon</b>	144 (4.9%)	132 (4.4%)	157 (5.2%)	99 (3.3%)	-45 (-1.6 pp)
<b>Region IVa - CALABARZON</b>	235 (6.1%)	146 (3.7%)	272 (6.9%)	107 (2.6%)	-128 (-3.5 pp)
<b>Region V - Bicol</b>	101 (5.4%)	63 (3.5%)	121 (6.8%)	45 (2.5%)	-56 (-2.9 pp)
<b>Region VI - Western Visayas</b>	129 (6.3%)	69 (3.4%)	110 (5.4%)	139 (6.9%)	+9 (+0.6 pp)
<b>Region VII - Central Visayas</b>	131 (6.4%)	88 (4.3%)	111 (5.4%)	56 (2.7%)	-75 (-3.7 pp)
<b>Region VIII - Eastern Visayas</b>	58 (4.3%)	60 (4.6%)	51 (3.9%)	38 (2.9%)	-20 (-1.5 pp)
<b>Region IX - Western Mindanao</b>	69 (6.2%)	50 (4.7%)	67 (6.4%)	124 (12.0%)	+55 (+5.8 pp)
<b>Region X - Northern Mindanao</b>	67 (5.0%)	49 (3.6%)	67 (4.9%)	51 (3.9%)	-16 (-1.1 pp)
<b>Region XI - Davao Region</b>	73 (5.4%)	71 (5.1%)	76 (5.4%)	65 (4.6%)	-8 (-0.8 pp)
<b>Region XII - SOCCSKSARGEN</b>	92 (6.9%)	68 (5.1%)	71 (5.2%)	53 (4.0%)	-39 (-2.9 pp)
<b>Region XIII - NCR</b>	136 (4.6%)	107 (3.4%)	194 (6.1%)	136 (4.3%)	+0.11 (-0.4 pp)
<b>Region XIV - CAR</b>	23 (4.8%)	19 (4.2%)	44 (9.4%)	8 (1.8%)	-15 (-3.0 pp)

<b>Region</b>	<b>2017</b>	<b>2019</b>	<b>2020</b>	<b>2022</b>	<b>Change 2017- 2022</b>
<b>Region XV - BARMM</b>	138 (11.1%)	184 (13.8%)	194 (14.2%)	160 (11.7%)	+22 (+0.7 pp)
<b>Region XVI - CARAGA</b>	47 (6.1%)	22 (2.9%)	22 (2.9%)	17 (2.3%)	-30 (-3.8 pp)
<b>Region IVb - MIMAROPA</b>	68 (7.2%)	29 (3.2%)	30 (3.3%)	27 (3.0%)	-40 (-4.2 pp)
<b>NATIONAL TOTAL</b>	1,637 (5.9%)	1,220 (4.3%)	1,813 (6.4%)	1,160 (4.1%)	-476 (-1.8 pp)

*Source: Authors' calculations on APIS microdata 2017-2022, PSA*

*Note: pp = percentage points*

The most remarkable finding is the exceptional performance of northern regions that achieved OOSC rates below 2% by 2022—historically unprecedented levels that represent near-universal educational access. Ilocos Region demonstrates the most dramatic improvement, reducing OOSC from 61,000 children (4.7%) in 2017 to just 17,000 children (1.3%) in 2022, despite experiencing a severe pandemic spike to 129,000 children (9.8%) in 2020. This represents a net reduction of 44,000 OOSC and a 3.4 percentage point improvement over the study period. Similarly, Cagayan Valley reduced OOSC from 64,000 (6.7%) to 17,000 (1.9%), and CAR achieved a remarkable decline from 23,000 (4.8%) to just 8,000 (1.8%), representing a 65% reduction in absolute numbers.

These northern regions' success appears to stem from several potential factors that warrant deeper investigation for replication elsewhere. The dramatic V-shaped recovery pattern—severe pandemic spike followed by rapid overcorrection to below-baseline levels—suggests robust institutional capacity, effective crisis response mechanisms, and possibly superior local governance structures. The fact that these regions achieved their lowest recorded OOSC rates in 2022, despite global educational disruption, indicates systematic advantages that may include stronger school-community relationships, more effective implementation of national programs, better infrastructure resilience, or local economic conditions that support educational prioritization even during crisis periods.

The majority of regions demonstrate steady, gradual improvement that aligns with national trends, though with varying degrees of success. CALABARZON, despite being the most populous region with large absolute OOSC numbers, achieved substantial progress from 235,000 (6.1%) in 2017 to 107,000 (2.6%) in 2022—a reduction of 128,000 children representing the largest absolute improvement nationally. Central Luzon and Bicol Region similarly show consistent downward trends, though their improvement trajectories are more gradual than the northern exceptional performers.

These regions faced significant pandemic challenges but recovered to below pre-pandemic levels, demonstrating system resilience without the dramatic overcorrection seen in northern regions. Their improvement patterns suggest that steady implementation of national policies, combined with economic development and urbanization trends, can achieve sustained progress even without exceptional local innovations. However, the more modest pace of improvement compared to northern regions suggests opportunities for accelerated progress through adoption of successful practices from exceptional performers.

Two regions present alarming deterioration patterns that represent educational emergencies requiring immediate intervention. Western Mindanao shows the most concerning trend, with OOSC increasing from 69,000 (6.2%) in 2017 to 124,000 (12.0%) in 2022—an addition of 55,000 out-of-school children and a 5.8 percentage point increase in rates. This deterioration occurred steadily across the study period, with the region showing limited pandemic recovery and continuing decline even as national trends improved substantially.

BARMM presents a different but equally concerning pattern of persistently high levels with cyclical variation. Starting from 138,000 (11.1%) in 2017, OOSC peaked at 194,000 (14.2%) in 2020 before declining to 160,000 (11.7%) in 2022—still representing a net increase of 22,000 children over the study period. BARMM consistently maintains OOSC rates nearly three times the national average, with recent estimates suggesting rates have reached 12.8% in 2023, indicating continued deterioration despite national improvement.

Western Visayas presents a third concerning pattern—initial improvement followed by recent deterioration. The region reduced OOSC from 129,000 (6.3%) in 2017 to 69,000 (3.4%) in 2019, but then experienced sustained increases to 139,000 (6.9%) by 2022, representing the only region other than Western Mindanao and BARMM to show net deterioration over the study period.

These divergent regional patterns demonstrate that uniform national policies produce highly variable outcomes depending on local contexts, governance capacity, infrastructure conditions, and socioeconomic factors. The success of northern regions suggests that certain combinations of local conditions and policy implementation can achieve near-universal access even in challenging global contexts. Conversely, the deterioration in specific regions indicates that national progress can mask serious local crises that require emergency intervention and specialized approaches. The regional variations also reveal the importance of understanding pandemic recovery patterns as indicators of underlying system resilience. Regions that achieved V-shaped recoveries with overcorrection demonstrate robust adaptive capacity, while regions showing L-shaped patterns (improvement stalled at elevated levels) or continued deterioration indicate structural vulnerabilities that require comprehensive reform rather than incremental improvement strategies.

#### Administrative Data Validation: School Leaver Rates Confirm Survey Patterns

The school leaver rate from the DepEd serves as a comprehensive measure for dropout rates, covering learners who do not finish a grade or year level, including those who finish but do not enroll in the next grade or year level the following school year. According to DepEd, this measure is more comprehensive than the simple dropout rate, with the drawback of it becoming unreliable in areas with substantial migration.

The trends from administrative data on school leaver rates pre-pandemic to post-pandemic align with observations from national surveys. The school leaver rates at the primary-level (Grades 1 to 6) remain relatively low (**Table 5**), except for posting at most 4% on average during the pandemic (2020 to 2021), in comparison to school leaver rates for Grades 7 to 10 and even Grades 7 to 12. During the pandemic, primary-age male learners on average have higher school leaver rates compared to female counterparts. Post-pandemic data shows that school leaver rates among primary-age improved to 2% on average.

**Table 5. Primary School leaver rate per region, SY 2017-2018 to SY 2023-2024**

Region	SY 2017-2018			SY 2018-2019			SY 2019-2020			SY 2020-2021		
	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes
Region I	0.9	0.6	0.8	0.5	0.1	0.3	0.3	0.1	0.2	0.7	0.5	0.6
Region II	1.6	0.8	1.2	0.6	0.1	0.4	0.8	0.2	0.4	0.5	0.1	0.4
Region III	0.9	0.4	0.7	0.3	0.0	0.1	0.4	0.1	0.2	3.8	2.8	3.3
Region IV-A	0.5	0.1	0.3	0.2	0.0	0.0	0.2	0.0	0.1	5.4	4.2	4.8
Region IV-B	2.3	1.1	1.7	1.2	0.5	0.9	1.3	0.3	0.9	2.6	1.8	2.2
Region V	2.1	1.1	1.6	0.9	0.2	0.6	1.4	0.6	1.0	5.4	4.4	4.9
Region VI	1.8	0.6	1.3	0.8	0.2	0.5	0.8	0.3	0.5	1.7	1.1	1.4
Region VII	2.1	0.9	1.5	0.6	0.0	0.2	1.1	0.3	0.6	4.1	3.2	3.7
Region VIII	1.9	0.9	1.5	1.9	0.8	1.3	1.2	0.8	1.0	1.3	0.7	1.0
Region IX	3.2	1.5	2.4	0.9	0.2	0.5	1.7	0.6	1.2	3.8	2.8	3.3
Region X	2.5	0.9	1.8	1.2	0.6	0.9	1.5	0.6	1.1	4.1	3.0	3.6
Region XI	2.3	1.0	1.7	1.1	0.1	0.6	1.6	0.4	1.1	6.5	5.1	5.9
Region XII	2.2	1.1	1.6	1.3	0.4	0.9	1.2	0.5	0.9	3.0	2.4	2.7
CARAGA	2.5	1.2	1.9	1.2	0.3	0.8	1.2	0.6	0.9	1.7	1.2	1.4
BARMM	11.7	11.2	11.5	4.6	3.7	4.1	6.0	4.1	5.6	8.9	7.8	8.4
CAR	2.1	1.1	1.6	0.6	0.2	0.4	1.1	0.5	0.8	1.4	0.9	1.2
NCR	1.1	0.7	0.9	0.4	0.0	0.2	1.0	0.9	1.1	7.5	6.4	6.9
PSO										8.8	8.5	8.7
Total	2.0	1.1	1.6	0.8	0.1	0.5	1.1	0.3	0.6	4.2	3.3	3.8

Table 6

Grade 1 to 6	SY 2021-2022			SY 2022-2023			SY 2023-2024		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Region I	0.0	0.0	0.0	0.1	0.0	0.0	1.2	0.8	1.0
Region II	0.2	0.0	0.1	0.6	0.3	0.5	1.3	0.7	1.0
Region III	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.6	1.0
Region IV-A	0.0	0.0	0.0	0.2	0.3	0.2	0.7	0.2	0.5
Region IV-B	0.1	0.0	0.0	0.4	0.1	0.3	2.6	1.3	2.0
Region V	0.0	0.0	0.0	0.2	0.1	0.2	2.0	1.1	1.6
Region VI	0.0	0.0	0.0	0.1	0.0	0.1	1.0	0.4	0.7
Region VII	0.0	0.0	0.0	0.1	0.0	0.0	1.0	0.2	0.6
Region VIII	0.3	0.0	0.1	0.3	0.2	0.2	2.1	1.1	1.6
Region IX	0.1	0.1	0.0	0.5	0.0	0.2	2.6	0.9	1.6
Region X	0.2	0.1	0.1	0.2	0.1	0.2	2.5	1.3	1.9
Region XI	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.9	1.5
Region XII	0.1	0.0	0.0	0.1	0.0	0.0	2.3	1.1	1.8
CARAGA	0.6	0.1	0.3	0.2	0.1	0.1	2.3	1.1	1.7
BARMM	2.9	2.3	2.6	1.7	1.7	1.6	8.3	6.8	7.6
CAR	0.1	0.0	0.1	0.3	0.1	0.2	1.0	0.3	0.6
NCR	0.0	0.0	0.0	0.9	1.4	1.3	1.4	0.9	1.2
PSO	12.9	13.1	13.0	0.0	0.0	0.0	0.5	0.4	0.4
Total	0.0	0.0	0.0	0.1	0.0	0.1	1.9	1.0	1.5

Source: DepEd

The school leaver rate at the junior high level (Grades 7 to 10) is relatively higher compared to those for the primary level, with pre-pandemic rates averaging within the range of 4% to 5% (**Table 6**). As pointed out by OOSC rates, boys are more likely to leave school. Even during the pre-pandemic period, male lower junior high learners were twice as likely to leave school compared to female counterparts, based on administrative data. During the pandemic, the average school leaver rate increased to 6.2%, with males being disproportionately affected at 7.6% versus females at 4.7%. The situation improved post-pandemic, although for the school year 2023-2024, the rate increased again to 5.7% on average, with 7.4% of males and 3.8% of females in the junior high level leaving school, reverting to almost the same levels during the pandemic.

For the complete secondary school level that includes both junior and senior high (Grades 7 to 12), the same trends can be observed as with the junior high school leaver rates (**Table 7**). The pre-pandemic rates also average within the range of 4% to 5%. With 6.6% average school leaver rate among the secondary school level during the pandemic, male high school students have higher rates at 8.0%, compared to females at 5.3%. The same trend of reduction in leaver rates is observed immediately post-pandemic, as well as an increase to 5.5% on average school leaver rate among the complete secondary-age group for the school year 2023-2024.

**Table 7. Junior High School leaver rate (in %) per region, SY 2017-2018 to SY 2023-2024**

Grade 7 to 10	SY 2017-2018			SY 2018-2019			SY 2019-2020			SY 2020-2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Region I	4.9	2.3	3.6	4.1	1.6	2.9	4.4	2.0	3.3	3.4	1.8	2.6
Region II	6.8	3.6	5.2	5.2	1.9	3.7	5.4	2.5	4.0	2.1	0.5	1.3
Region III	6.1	3.2	4.7	4.6	1.5	3.3	4.7	2.4	3.6	7.0	4.1	5.6
Region IV-A	4.4	2.0	3.2	3.6	0.9	2.4	4.2	2.1	3.2	8.0	4.9	6.5
Region IV-B	6.9	3.7	5.3	7.0	3.8	5.4	6.4	3.5	5.0	6.8	3.7	5.3
Region V	7.1	3.7	5.4	6.3	2.3	4.4	7.6	3.8	5.8	13.7	9.2	11.5
Region VI	6.6	3.3	5.0	5.2	2.3	3.8	6.4	3.2	4.8	2.9	1.5	2.3
Region VII	7.3	3.4	5.4	4.4	1.1	2.8	7.4	3.4	5.4	8.8	5.6	7.3
Region VIII	8.8	4.7	6.8	7.7	3.8	5.8	8.1	4.3	6.3	5.1	2.0	3.6
Region IX	9.1	5.6	7.4	7.9	3.4	5.7	9.9	5.5	7.8	5.8	3.2	4.6
Region X	8.8	5.1	7.0	4.5	3.2	4.8	7.7	4.5	6.1	7.3	4.4	5.9
Region XI	8.3	5.1	6.7	7.3	3.1	5.2	8.1	4.2	6.2	10.7	7.1	8.9
Region XII	8.1	5.4	6.8	7.8	4.3	6.0	7.7	4.2	6.0	7.3	4.5	5.9
CARAGA	6.6	4.6	5.6	6.1	3.1	4.6	6.4	4.0	5.2	4.1	2.2	3.2
BARMM	14.1	14.0	14.1	2.9	1.6	1.5	5.8	3.9	4.8	12.0	7.8	9.8
CAR	8.8	4.2	6.5	6.7	2.0	4.4	7.9	3.5	5.8	5.4	2.8	4.2
NCR	4.7	1.9	3.3	2.6	1.0	1.8	5.4	3.0	4.2	10.9	7.7	9.3
PSO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	12.4	11.3
Total	6.7	3.7	5.2	5.3	2.2	3.8	6.2	3.2	4.7	7.6	4.7	6.2

Grade 7 to 10	SY 2021-2022			SY 2022-2023			SY 2023-2024		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Region I	0.0	0.0	0.0	1.6	0.9	1.3	6.6	3.1	4.9
Region II	0.0	0.0	0.0	2.3	2.0	1.9	7.1	3.5	5.3
Region III	0.1	0.0	0.0	1.0	0.8	0.9	6.7	3.6	5.2
Region IV-A	0.1	0.0	0.0	0.4	0.3	0.3	4.7	2.4	3.6
Region IV-B	0.0	0.0	0.0	4.4	3.0	3.7	9.0	5.1	7.1
Region V	0.0	0.0	0.0	4.4	2.6	3.5	8.1	4.1	6.2
Region VI	0.0	0.0	0.0	2.2	1.4	1.8	6.6	2.9	4.8
Region VII	0.0	0.0	0.0	2.1	1.4	1.6	6.9	3.0	5.0
Region VIII	0.0	0.0	0.0	3.7	2.5	3.1	10.2	5.5	7.9
Region IX	0.0	0.0	0.0	6.8	3.6	5.3	12.0	6.1	9.0
Region X	0.3	0.2	0.3	3.3	1.9	2.6	9.5	5.3	7.4
Region XI	0.0	0.0	0.0	2.1	1.5	1.8	8.7	4.5	6.6
Region XII	0.5	0.1	0.3	2.4	2.6	2.2	10.1	5.4	7.8
CARAGA	0.9	0.4	0.7	3.0	3.3	2.8	10.5	6.0	8.3
BARMM	1.8	0.7	1.0	5.7	4.7	5.2	14.4	9.1	11.6
CAR	0.2	0.1	0.2	2.7	0.6	1.3	7.5	2.8	5.2
NCR	0.0	0.0	0.0	0.4	1.0	0.5	4.5	2.2	3.4
PSO	12.1	10.9	9.9	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.9</b>	<b>1.8</b>	<b>1.6</b>	<b>7.4</b>	<b>3.8</b>	<b>5.7</b>

Source: DepEd

**Table 8. Secondary School leaver rate (in %) per region, SY 2018-2019 to SY 2023-2024**

School Leaver Rate Grade 7 to 12	SY 2018-2019			SY 2019-2020			SY 2020-2021			SY 2021-2022			SY 2022-2023			SY 2023-2024		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Region I	4.3	2.7	3.5	4.7	2.9	3.8	3.9	2.3	3.2	0.2	0.1	0.1	2.2	1.6	1.9	6.5	3.2	5.0
Region II	4.6	2.6	3.6	4.9	3.0	3.9	2.4	0.9	1.6	0.6	0.2	0.4	3.4	2.9	3.1	6.5	4.2	5.4
Region III	4.4	2.3	3.6	5.0	3.5	4.3	7.3	4.6	6.0	0.5	0.2	0.3	2.8	2.4	2.6	6.2	3.8	4.7
Region IV-A	4.6	2.1	3.7	4.8	3.3	4.1	9.3	6.4	7.8	0.6	0.2	0.3	2.4	2.0	2.2	5.1	3.5	4.3
Region IV-B	7.4	5.4	6.4	6.6	4.6	5.6	7.1	4.1	5.6	0.4	0.4	0.4	5.3	4.4	4.9	9.6	5.9	7.8
Region V	5.9	3.4	4.6	7.3	4.7	6.0	14.1	10.1	12.1	0.1	0.0	0.1	4.6	3.4	4.0	8.8	5.0	6.9
Region VI	5.0	3.3	4.1	5.0	3.8	4.9	3.3	1.8	2.6	0.2	0.1	0.1	3.2	2.9	3.0	7.1	4.2	5.7
Region VII	2.9	1.2	1.8	5.2	3.4	4.1	8.8	5.9	7.3	0.2	0.1	0.2	3.1	2.4	2.8	5.4	3.3	4.3
Region VIII	6.5	4.3	5.4	7.0	4.7	5.9	4.9	2.3	3.6	0.2	0.1	0.1	5.1	5.0	5.0	10.5	6.7	8.6
Region IX	6.6	3.9	5.2	6.9	5.3	6.9	5.8	3.7	4.7	0.3	0.2	0.3	5.9	4.6	5.2	11.5	6.8	9.2
Region X	4.5	3.5	4.4	5.7	4.7	5.8	7.0	3.5	5.5	0.7	0.4	0.6	4.8	3.7	4.3	7.6	5.0	6.3
Region XI	5.2	3.0	4.5	6.0	4.3	5.7	11.0	8.0	9.5	0.3	0.2	0.2	3.5	2.9	3.2	6.8	4.4	5.6
Region XII	5.5	4.4	5.4	6.0	4.6	4.9	7.0	4.2	5.6	0.7	0.2	0.4	3.4	3.0	3.2	9.5	5.8	7.7
CARAGA	5.2	3.8	4.5	6.1	4.8	5.5	4.4	2.3	3.4	0.9	0.3	0.6	4.3	4.7	4.5	10.3	6.4	8.4
BARMM	6.2	7.3	7.0	7.0	6.0	6.5	11.8	8.8	10.1	2.5	1.2	1.7	7.4	7.1	7.3	13.9	10.2	11.9
CAR	4.5	1.5	3.0	5.5	3.0	4.3	4.2	2.5	3.3	1.0	0.4	0.6	3.5	2.0	2.8	5.6	2.7	4.2
NCR	2.6	1.0	1.8	4.9	3.6	4.3	11.9	8.7	10.3	1.0	0.3	0.6	2.9	2.5	2.7	3.7	2.6	3.1
PSO							16.9	18.7	17.8	18.8	22.3	20.5	2.6	4.4	3.5	4.6	3.8	4.2
Total	4.8	2.9	3.9	5.8	3.8	4.8	8.0	5.3	6.6	0.3	0.2	0.2	3.3	2.7	3.0	6.9	3.8	5.5

Source: DepEd

These DepEd administrative data trends validate the survey findings and demonstrate consistent patterns of male overrepresentation among school leavers, pandemic-related disruptions followed by partial recovery, and persistent challenges at the secondary level that require targeted interventions. The convergence of survey and administrative data sources strengthens confidence in the identified patterns and policy implications.

The mechanisms through which poverty affects school participation are multifaceted and deeply entrenched in household survival strategies. Research demonstrates that dire poverty has both direct effects on schooling—where children cannot attend because families lack money for transportation, school supplies, or other educational expenses—and more problematic indirect effects that create sustained pressure on household resources and family time allocation (PIDS 2012; David and Albert 2015; David et al. 2018). Studies reveals that each one percent increase in household expenditure increases the odds of attending school by 1.03 percent, while each additional year of educational attainment of the household head increases a child's odds of school attendance by 13 percent. These findings highlight how poverty creates intergenerational cycles of educational exclusion, where parents with limited education face greater economic constraints and possess fewer resources to support their children's schooling.

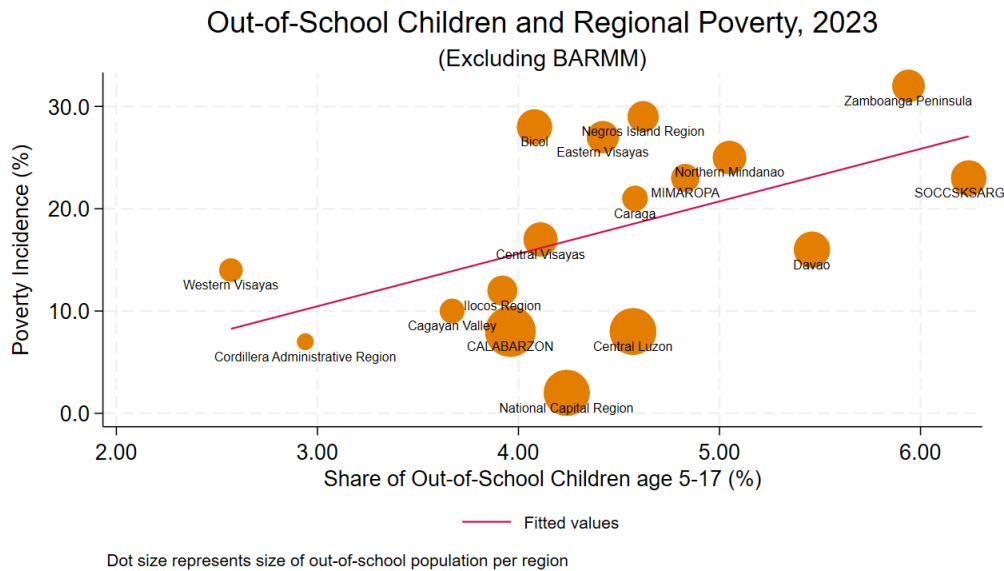
The relationship between poverty and education access is further complicated by opportunity costs that intensify as children age. Among primary-aged children, poverty primarily manifests through direct financial barriers and delayed school entry, with many poor families considering young children "too young for school" partly due to economic pressures that prioritize immediate survival needs over long-term educational investments. However, for secondary-aged children, the intersection of poverty with labor force participation becomes particularly pronounced. Data shows that 46.5 percent of OOSC aged 12-15 belong to the poorest income quintile, while 52.5 percent of secondary school-age OOSC are engaged in economic activities, demonstrating how poverty forces older children into income-generating work that competes directly with educational participation.

Geographic dimensions significantly amplify poverty's impact on educational exclusion. Rural areas, which concentrate approximately two-thirds (65.5 percent) of all OOSC, experience compounded disadvantages where poverty intersects with limited access to quality schools, greater distances to educational facilities, and economic structures that rely heavily on child labor in agricultural activities. Rural poverty also correlates with lower parental education levels, creating communities where limited familiarity with formal education systems reduces both demand for schooling and capacity to support children's educational success. Regional analysis shows that areas with higher poverty incidence, such as SOCCSKSARGEN (6.2 percent OOSC rate) and Zamboanga Peninsula (5.9 percent OOSC rate), maintain significantly elevated rates of educational exclusion despite national progress in reducing overall OOSC numbers.

A positive relationship between the OOSC rates (age 5-17) and poverty incidence at the regional level is observed in 2023, excluding the Bangsamoro Autonomous Region of Muslim Mindanao (BARMM). Aside from BARMM, some of the highest OOSC rates in 2023 include SOCCSKSARGEN (6.2%) and Zamboanga Peninsula (5.9%), with these regions posting at least 20% in poverty incidence in 2023 (**Figure 3**). The regions with the biggest numbers of OOSC (as indicated by population size) are also those that are the most

populous: National Capital Region (NCR), CALABARZON and Central Luzon, with these regions reducing their average OOSC rates to around 4%, from the average 6% to 7% range in 2018 and 2021. The BARMM is not included in standard regional comparisons due to it being an outlier: in 2023, it has the highest number of OOSC (12.8% of total population of children age 5-17), with the poverty rate at 32%, also the highest among regions.

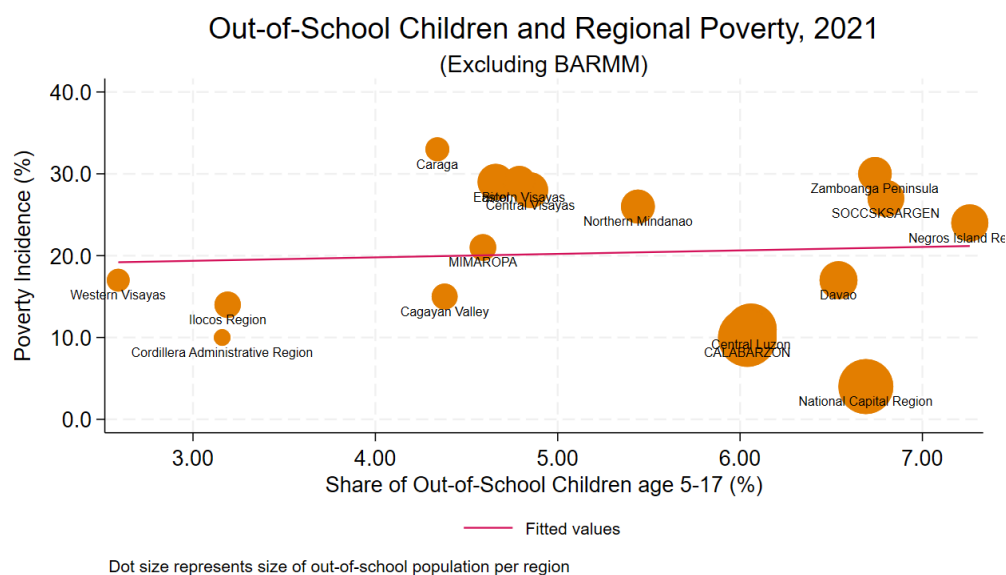
**Figure 3. Out-of-school children rates and regional poverty incidence, 2023**



Source: Authors' computations from 2023 FIES-LFS, PSA

The national OOSC rate (for children age 5-17) has reduced to 4.9% in 2023 from 6.3% in 2021 from the impacts of the Covid-19 pandemic. In 2021, most regions suffered from elevated poverty, with many regions posting poverty incidence in the range of 20% to 30% (Figure 4). Populous regions such as the NCR, CALABARZON, Central Luzon and Davao Region had OOSC rates that remained at around 6% during 2021. The pandemic exacerbated the challenge of education access in the BARMM, which posted an OOSC rate of 20.7% in 2021. Other regions that also significantly felt the pandemic's impact in education include Negros Island Region, with OOSC rate of 7.3% in 2021, Zamboanga Peninsula (6.7%) and SOCCSKSARGEN (6.8%).

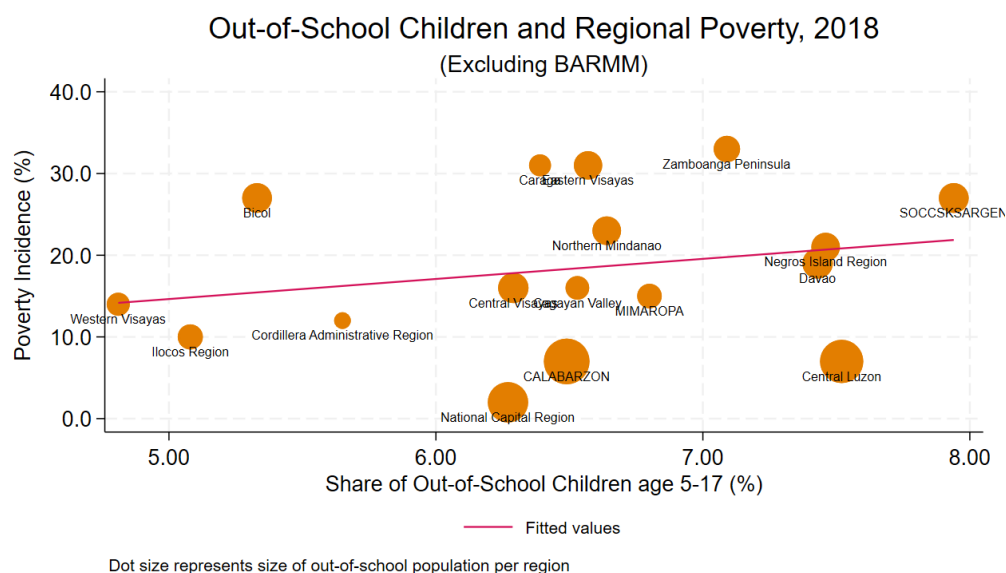
**Figure 4. Out-of-school children and regional poverty incidence, 2021**



Source: Authors' computations from 2021 FIES-LFS, PSA

Prior to the pandemic, relatively higher rates of OOSC were observed among the regions, with the national average at 7.1% in 2018 (Figure 5). The regions with at least 7% OOSC rate in 2018 were: SOCCSKSARGEN (7.9%), Davao Region (7.4%), Zamboanga Peninsula (7.1%), and Negros Island Region (7.5%), with these areas posting around 20% to 30% of poverty incidence in 2018. The exception was Central Luzon with a relatively high OOSC rate of 7.5%, even with a low poverty incidence at 7.0% in 2018.

**Figure 5. Out-of-school children and regional poverty incidence, 2018**



Source: Authors' computations from 2018 FIES-LFS, PSA

The persistence of poverty-related educational barriers reflects structural inequalities in household economic capacity and resource allocation patterns. Data from the FIES demonstrates that families without overseas worker remittances spend significantly less on

education (5.4 percent of budget versus 7.2 percent for OFW families), with per capita education spending nearly doubling from ₱8,200 to ₱15,400 when additional income is available. The extremely poor maintain negative savings rates, functioning as "net dis-savers" with higher exposure to economic shocks, while those not nearly poor save 11.5 percent of their income compared to just one percent among the nearly poor. These financial constraints mean that poor families face impossible choices between immediate survival needs and long-term educational investments, with education often sacrificed during economic stress periods.

The post-pandemic period appears to have created new complexities in poverty-education relationships, as evidenced by the volatility through 2022. While the fundamental inverse relationship between wealth and educational exclusion remains theoretically sound and empirically supported in most years, the data suggests that external shocks, measurement challenges, or policy interventions may have temporarily disrupted traditional patterns. Moving forward, addressing poverty-related barriers to education requires comprehensive approaches that tackle both direct financial constraints through targeted subsidies and conditional cash transfers, and indirect effects through employment generation, rural development, and programs that address the opportunity costs of schooling for economically vulnerable families.

#### 4.5. Age-Specific Analysis of Barriers to Educational Participation

##### 4.5.1 Fundamentally Different Barrier Profiles Across Age Groups

The percentage breakdown of OOSC reasons by age groups and sex in **Tables 8a-d** reveals profound age-sex interactions that challenge traditional approaches to OOSC intervention and highlight the need for sophisticated, developmentally-informed, gender-responsive strategies. The data demonstrates that barriers to educational participation are neither uniform across age groups nor consistent between boys and girls, instead following complex developmental and social patterns that require nuanced policy responses.

**Table 9. Reasons for Non-Attendance by Age Group and by Sex, 2017-2022**

(a) Pre-Primary-Aged (5 year old) Children

Reason/Year and Sex	2017		2019		2020		2022	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Accessibility of school	0.5	10.1	4.1	1.0	0.8	0.6	1.5	2.9
Illness/disability	13.9	0.0	5.2	7.9	3.9	0.8	2.9	1.3
High cost of education	4.6	1.5	1.9	4.0	0.6	0.2	0.2	1.8
Lack of personal interest	1.3	24.7	10.3	5.8	0.9	0.0	4.1	5.9
Problem with school record	2.6	3.1	1.5	4.5	0.0	0.0	0.0	0.0
Too young to go to school	74.9	58.9	76.4	68.3	57.0	64.0	79.2	76.9
Due to Covid-19	0.0	0.0	0.0	0.0	32.9	31.4	3.7	0.8
Family matters	0.0	0.0	0.0	0.0	2.3	2.7	4.8	5.4
Bullying	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0
Others	2.2	1.7	0.7	8.4	0.3	0.3	3.6	4.9

Source: Authors' calculations on APIS microdata 2017-2022, PSA

(b) Primary-Aged (6-11 year old) Children

Reason/Year and Sex	2017		2019		2020		2022	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Accessibility of school	14.0	0.0	3.2	7.8	6.1	5.9	1.8	2.1
Illness/disability	27.0	32.5	27.0	21.9	18.8	11.1	25.9	16.7
High cost of education	13.7	6.4	11.1	14.6	7.3	7.6	7.4	3.7
Employment/looking for work	0.0	2.6	1.7	0.8	0.0	0.0	0.0	0.0
Lack of personal interest	31.4	27.8	37.3	34.1	5.2	4.7	14.5	8.4
Problem with school record	4.2	9.8	5.9	0.6	0.0	0.0	0.0	0.0
Too young to go	6.9	18.3	5.2	5.2	0.1	0.6	0.0	0.5
Family matters or marriage	0.0	0.0	1.0	2.1	4.4	4.0	8.9	11.1
Due to Covid-19	0.0	0.0	0.0	0.0	54.9	64.4	5.2	4.3
Bullying	0.0	0.0	0.0	0.0	0.9	0.4	0.0	0.1
Others	2.8	2.6	7.5	12.9	2.3	1.3	36.4	53.0

Source: Authors' calculations on APIS microdata 2017-2022, PSA

(c) Junior High-Aged (12-15 year old) Children

Reason/Year and Sex	2017		2019		2020		2022	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Accessibility of school	0.0	0.0	2.1	2.8	3.0	2.0	2.0	3.0
Illness/disability	7.5	16.2	13.1	19.0	14.1	20.4	17.0	20.0
Marriage/family matter/pregnancy	0.9	2.7	1.9	19.3	8.4	10.4	6.5	16.6
High cost of education	14.7	22.5	15.5	17.7	11.9	7.3	9.7	12.2
Employment/looking for work	3.0	4.0	12.8	10.4	6.4	0.8	6.0	0.4
Lack of personal interest	69.0	49.0	53.5	24.7	24.5	14.8	33.4	15.0
Problem with school record	0.3	0.0	0.4	2.9	0.0	0.0	0.0	0.0
Due to Covid-19	0.0	0.0	0.0	0.0	29.4	41.8	1.1	1.4
Bullying	0.0	0.0	0.0	0.0	1.5	1.0	1.4	0.8
Others	4.7	5.6	0.5	3.1	0.7	1.5	22.9	30.8

Source: Authors' calculations on APIS microdata 2017-2022, PSA

(d) Senior High-Aged (16-17 year old) Children

Reason/Year and Sex	2017		2019		2020		2022	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Accessibility of school	2.0	0.0	1.4	0.5	0.7	2.0	0.4	1.0
Illness/disability	7.2	9.6	6.7	7.9	5.2	4.9	6.9	7.8
Marriage/family matter/pregnancy	1.3	24.2	7.2	23.6	11.2	41.0	10.9	37.6
High cost of education	27.9	23.4	14.9	16.6	18.0	9.1	11.2	14.2
Employment/looking for work	14.1	21.3	26.3	14.9	18.3	9.4	22.1	5.0
Lack of personal interest	46.1	18.7	42.4	34.8	25.0	12.0	38.9	13.4
Problem with school record	0.6	1.4	0.3	0.2	0.0	0.0	0.0	0.0

Reason/Year and Sex	2017		2019		2020		2022	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Due to Covid-19	0.0	0.0	0.0	0.0	20.0	20.8	1.1	0.0
Bullying	0.0	0.0	0.0	0.0	1.2	0.0	0.9	0.0
Others	0.7	1.4	0.8	1.6	0.6	0.8	7.7	21.0

Source: Authors' calculations on APIS microdata 2017-2022, PSA

Among kindergarten-aged children, barrier patterns show remarkable gender consistency, with school readiness perceptions dominating for both boys (79%) and girls (77%) in 2022. This near-gender parity in the primary barrier suggests that parental attitudes toward early childhood education are largely gender-neutral, focusing on developmental readiness rather than differential expectations for boys versus girls. The slight male advantage in "too young" perceptions may reflect subtle gender differences in developmental expectations, but the 2-percentage point gap is far smaller than disparities observed in older age groups.

According to the World Bank, particularly in its "Quality Early Learning: Nurturing Children's Potential" report (Bendini and Devercelli 2022), many teachers maintain unrealistic developmental expectations for young children, particularly expecting fine motor skills and academic readiness that are developmentally inappropriate for 5-6 year olds. This finding aligns directly with the Philippine context, where teachers reportedly expect children to arrive at school with advanced developmental capabilities including the ability to identify letters and numbers, fine motor skills necessary for writing, and classroom socialization skills that may not be age-appropriate.

Another study (Neuman and Devercelli 2013) also provides additional context for why this barrier persists, noting that teacher training often fails to address developmentally appropriate practices, which explains why policy efforts to promote early entry have not translated into changed community practices. The research suggests that the issue extends beyond policy implementation to encompass fundamental misconceptions about child development and school readiness among both educators and parents.

International evidence from the World Bank's early childhood development research in Indonesia provides compelling evidence for addressing this school readiness barrier through quality early childhood programming. The Indonesia studies found that children who enrolled in playgroups between ages 3-4 and then attended kindergarten at ages 5-6 scored significantly higher on primary school tests, demonstrating that appropriate early childhood interventions can effectively address school readiness concerns while simultaneously changing perceptions about developmental appropriateness (World Bank 2019). This research showed particularly strong impacts for children from disadvantaged households, with those from poorer families with below-average parenting practices showing significant improvements in language and cognitive development, social competence, and emotional maturity - precisely the areas where Philippine teachers report developmental concerns among 5-year-olds.

The secondary barriers also show minimal gender differences, with lack of interest affecting 4% of boys versus 6% of girls, and family matters equally affecting both sexes at 5%. This pattern suggests that kindergarten non-attendance decisions are primarily family-level rather than child-specific, indicating that community education campaigns about kindergarten benefits should target household decision-makers rather than addressing gender-specific concerns. The temporal trend showing increased "too young" perceptions from 59-75% in 2017

to 77-79% in 2022 suggests that pandemic disruptions may have reinforced parental hesitancy about early school entry, requiring renewed emphasis on kindergarten advocacy.

Primary-aged children exhibit the first clear emergence of gender-differentiated barrier patterns, particularly in health-related factors and the concerning expansion of unclassified barriers. Boys show consistently higher rates of illness/disability as a barrier (26% versus 17% for girls in 2022), suggesting either differential health vulnerabilities or differential family responses to boys' versus girls' health challenges. This 9-percentage point gender gap in health barriers has remained relatively stable over time, indicating systematic rather than circumstantial factors driving these differences.

The most concerning finding for primary-aged children is the dramatic expansion of "others/unknown" reasons, affecting 36% of boys and 53% of girls by 2022—representing the largest single barrier category for both sexes. The 17-percentage point gender gap in unclassified barriers suggests that girls face complex, poorly understood factors that conventional barrier categories cannot capture. This pattern may reflect family dynamics, cultural expectations, or emerging social factors that disproportionately affect girls' primary education participation but remain invisible to standard data collection instruments.

Lack of interest shows concerning increases for both sexes (15% boys, 8% girls in 2022), with boys showing consistently higher disengagement rates. This 6-percentage point gender gap in academic engagement at the primary level foreshadows the dramatic male engagement crisis that emerges in secondary education, suggesting that early intervention strategies targeting boys' academic engagement may be crucial for preventing later dropout.

The lower secondary age group reveals the most dramatic gender disparities in educational barriers, with distinct crisis patterns affecting boys and girls differently. Boys exhibit a severe engagement crisis, with lack of interest affecting 33% compared to only 15% of girls—an 18-percentage point gender gap that represents the largest single difference across all age groups and barrier types. This male disengagement pattern has intensified over time, rising from 29% in 2017 to 33% in 2022, indicating a worsening crisis that demands immediate intervention.

The lack of interest among boys appears connected to academic preparation deficits, as previous research has traced this disengagement to poor academic performance and ultimately to weak reading skills developed in primary grades (David et al 2018). The consistency of this pattern across years suggests systematic factors affecting boys' academic engagement rather than temporary disruptions. Combined with boys' higher rates of "others/unknown" barriers (23% versus 31% for girls), the data indicates that conventional intervention frameworks may be inadequately designed to address the complex factors driving male educational disengagement.

Girls at this age face different but equally concerning barriers to schooling, particularly the emergence of marriage and family matters as a significant factor affecting 17% of girls compared to 7% of boys. While marriage rates for girls have remained relatively stable over time, the 10-percentage point gender gap represents profound differential social expectations that begin affecting educational participation during early adolescence. Additionally, girls show slightly higher rates of cost-related barriers (12% versus 10% for boys), suggesting that families may begin differential investment calculations that favor boys' continued education over girls' when resources become constrained.

Upper secondary students show converging patterns of academic disengagement combined with sharply divergent life transition pressures that create distinct intervention challenges for boys versus girls. Lack of interest affects boys disproportionately (39% boys, 13% girls in 2022), suggesting that curriculum relevance, career pathway clarity, and academic engagement strategies require attention for all upper secondary students regardless of gender.

However, the convergence in academic disengagement masks dramatic divergence in life transition pressures that create gender-specific barriers requiring tailored responses. Marriage and family pressures show the most extreme gender disparity across all age groups and barriers, affecting 38% of girls versus only 11% of boys in 2022. This 27-percentage point gap has actually widened over time, particularly between 2020 and 2022, suggesting that economic pressures or cultural factors may be intensifying family expectations for girls to prioritize marriage and family responsibilities over educational completion.

Employment pressures for boys (22% boys, 5% girls by 2022) suggest other gender dimensions, with economic necessity affecting male students of working age likely due to familial obligations. Boys may face direct pressure to enter the workforce to support family income, while girls may face pressure to contribute through domestic responsibilities or early marriage that indirectly removes them from educational pathways. This suggests that economic support programs must address both direct labor force participation and indirect economic pressures that affect educational persistence.

Fieldwork from the four study sites provides critical nuances to the logistic regression findings, which indicate that female children consistently exhibit a lower probability of being out-of-school across all age groups (with marginal effects of -5 to -10 percentage points in Annex Tables A-1 and A-2), largely attributable to entrenched cultural norms prioritizing girls' education over boys'. However, this aggregate protective effect masks pronounced gender-specific vulnerabilities that lead to uneven dropout trajectories, especially at the senior high school (SHS) level (ages 16-17), where advantages for girls erode under acute biological and social shocks, while boys' risks manifest as more diffuse, chronic patterns of severely at-risk dropout (SARDO).

In particular, pregnancy emerges as a pivotal driver for 20-30% of SHS exits among females in Cagayan de Oro and Negros, often intertwined with online-initiated relationships or peer influences that precipitate sudden withdrawals; for instance, FGDs with teachers from Cagayan de Oro and an interview with a school administrator documented a decline from 16 to 6 annual cases post-pandemic, yet this still accounts for ~25% of female SARDO, with many involving relocations to partners (e.g., one case of a student leaving for Bukidnon) and subsequent returns via flexible ALS or Open High School Program (OHSP) pathways, though stigma delays re-entry by 3-6 months and inflates "severely excluded" counts. In Negros' upland barangays, early marriages exacerbate this, affecting ~30% of post-Grade girls per LGU mapping, as distances of 7-8 km from secondary schools heighten isolation risks, thereby mediating the DP's substantial 67 percentage point marriage effect and highlighting the need for targeted youth-friendly contraception referrals as in Cagayan de Oro's Youth Development Sessions (YDS).

Conversely, boys dominate work- and peer-driven SARDO at rates of ~60% across sites, particularly in Laguna's FGDs with students and parents, where "barkada" pulls—manifesting as basketball hangouts or motorcycle-enabled truancy—compound economic demands like sugarcane labor or night vending, leading to episodic yet cumulative absences that overwhelm

1:75 teacher outreach ratios. This pattern extends to Cagayan de Oro, where males over-represent SARDO due to digital habits (e.g., gaming-induced "puyat"), and Negros, with early-morning work demands cited in 60% of teacher FGD cases; unlike the finality of pregnancy-driven exits, boys' risks are reversible but chronic, raising long-term exclusion by 20% without interventions like transport stipends.

These site-specific disparities—derived from averaged FGD/KII shares and triangulated with LFS youth employment trends—reveal a "gender reversal" dynamic at SHS, where girls' early-life protections yield to concentrated shocks and boys' persist through networked economic and social pressures, potentially halving national gender gaps in OOSC if addressed via tailored pillars in the DP's framework, such as boy-focused engagement modules in modern pedagogy or pregnancy re-entry protocols in child find strategies, while advocating for enhanced disaggregation in BEDP monitoring to capture these intersections more equitably.

Performance-based bonuses (PBBs) in the education sector introduce structural incentives that shape school behavior, often in ways that run counter to genuine learning. Albert et al. (2020) explain that PBB qualification depends heavily on garnering zero dropouts, which pressures schools to avoid any actions that may jeopardize these indicators. As a result, decisions about student progression become driven not by learning competencies but by performance metrics. Rather than risk a student dropping out—an action that would put a risk to attaining the—teachers strategically adopt *mass promotion*, advancing learners through the system even when they lack basic reading proficiency. These behaviors are attempts to protect institutional performance and secure bonuses, but they inadvertently create a situation in which apparent system success conceals significant learning deficiencies.

The consequences of these incentives become visible in early literacy outcomes. Reading instruction in the Philippines is concentrated in Grades 1 to 3, with the expectation that students acquire basic literacy by Grade 2. However, teachers report that nonreaders are still promoted through the early grades, and in some schools, as many as 10% of students reach Grade 7 without foundational reading skills or functional comprehension. Some schools pilot “no reading, no promotion” policies, but teachers express that enforcing this may reduce their PBB eligibility. In many cases, remedial support and peer tutoring (“buddy system”) are attempted, but when literacy gaps persist into upper elementary grades, remediation becomes increasingly difficult. The gap between grade-level expectations and actual reading ability widens.

These literacy deficits then evolve into motivational crises. When students who cannot read are pushed into higher grades, they enter classrooms where content assumes that reading skills already exist. They struggle to follow lessons, become embarrassed when called to read aloud, and may even experience ridicule or bullying. Poor comprehension makes subjects such as science and math nearly inaccessible, thus fueling frustration and academic disengagement. Over time, these students are more likely to lose interest in school, be pulled into peer distractions (“barkada”), take on work, or eventually drop out. Thus, rather than improving educational performance, the PBB incentive structure risks deepening disengagement and reinforcing a cycle of poor performance, as weak foundational literacy meets institutional pressure for superficial indicators of success.

The gendered nature of academic disinterest reveals nuanced patterns of educational participation. Boys consistently demonstrate higher rates of disengagement, particularly as they progress through secondary education. This trend suggests that traditional educational approaches may be fundamentally misaligned with the learning needs and motivational

contexts of male students. The educational system appears less equipped to address the specific challenges and interests that drive male student engagement.

The results shown in Table 2 align with longitudinal undulations: pre-2017, interest lapses hovered at 11-20%; pandemic flux propelled a 2020 spike (linked to 220,101 primary boy exclusions), subsiding yet stabilizing at elevated plateaus by 2022. Figure 1 chronicles this ascent alongside overage trajectories, evincing a Pearson  $r=0.75$  ( $p<0.01$ ) linkage—each 1% overage swell portends 0.6% disengagement creep. Field echoes amplify: In BARMM focus groups, 60% of 15 secondary boys attributed apathy to "hiding report cards," a euphemism for grade-induced mortification. Such psychosocial sequelae—bullying (cited by 45% of interviewees), eroded self-worth—entwine with opportunity costs, where boys envision vloggers' windfalls trumping syllabi's abstractions.

Causal forensics pivot to reading as the fulcrum. David et al. (2018) pioneer this thread: 80% of 2017's interest-lapsed secondary OOSC were overaged by  $\geq 2$  years, a vestige of primary non-mastery where 10% enter Grade 7 illiterate. EGRA diagnostics corroborate: DepEd's 2023 Basa Pilipinas audit logs 89% Grade 3 oral reading fluency nationally, yet rural boys trail at 75%, fumbling 15-20 words/minute below benchmarks (Piper et al., 2018). This chasm cascades: Non-readers, 30% in Grade 2 per pilots, grapple with modules' opacity, birthing absenteeism spirals. NAT fissures quantify the toll—Table 2 excerpts 2016-2017 scores, with boys' 37% Grade 6 aggregate (vs. girls' 43%) spanning Filipino (35 vs. 42), Math (38 vs. 44), and Science (36 vs. 43)—mirroring 2022 APIS where maternal illiteracy doubles boys' non-attendance OR=2.1 ( $p<0.001$ ).

**Table 9** presents mean percentage scores in NAT for students in Grades 6, 10, and 12 across multiple subjects, comparing performance by sex from school years 2017-2018 to 2024-2025. A striking pattern emerges across almost all subjects and grade levels: female students consistently outperform male students in academic achievement.

**Table 10. Mean Percentage Scores in National Achievement Test for Grade 6, Grade 10 and Grade 12 by Subject, and Sex (SY 2017-2018: 2024-2025)**

Subject and Sex / Grade and School Year		GRADE 6				GRADE 10		
		2017 - 2018	2021 - 2022	2023 - 2024	2024 - 2025	2017 - 2018	2018 - 2019	2022 - 2023
<b>Math</b>	<b>Female</b>	39.1	41.8	52.2	53.3	35.1	35.7	37.2
	<b>Male</b>	35.1	40.5	50.5	52.6	33.4	33.6	34.9
	<b>Both Sexes</b>	36.9	41.1	51.4	52.8	34.3	33.8	36.0
<b>Science</b>	<b>Female</b>	30.3	44.9	52.2	51.3	37.5	34.1	35.6
	<b>Male</b>	28.1	43.5	50.5	50.2	35.5	31.9	34.1
	<b>Both Sexes</b>	29.1	44.1	51.4	50.6	36.5	32.1	34.9
<b>Filipino</b>	<b>Female</b>	55.7	57.1	66.5	60.0	61.8	55.4	52.1
	<b>Male</b>	47.5	51.0	61.9	55.2	53.8	47.8	46.4
	<b>Both Sexes</b>	51.1	54.0	64.3	57.5	58.0	50.4	49.4
<b>English</b>	<b>Female</b>	37.4	45.5	63.1	60.4	46.9	44.3	49.5
	<b>Male</b>	32.5	41.7	58.9	56.5	39.7	36.8	42.6

Subject and Sex / Grade and School Year		GRADE 6				GRADE 10		
		2017 - 2018	2021 - 2022	2023 - 2024	2024 - 2025	2017 - 2018	2018 - 2019	2022 - 2023
	<b>Both Sexes</b>	34.7	43.6	61.0	58.4	43.5	39.7	46.2
<b>Araling Panlipunan</b>	<b>Female</b>	38.0	46.0	61.7	50.5	54.8	45.1	51.9
	<b>Male</b>	33.4	42.0	57.2	47.8	46.0	38.6	45.3
	<b>Both Sexes</b>	35.5	44.0	59.5	49.1	50.7	40.9	48.8
<b>Overall</b>	<b>Female</b>	40.1	47.0	59.5	55.1	47.2	42.9	45.3
	<b>Male</b>	35.3	43.8	56.1	52.4	41.7	37.7	40.7
	<b>Both Sexes</b>	37.4	45.4	57.9	53.7	44.6	39.4	43.1

Subject and Sex / Grade and School Year		GRADE 12		
		2018 - 2019	2022 - 2023	2023 - 2024
<b>Science</b>	<b>Female</b>	32.6	37.2	37.4
	<b>Male</b>	31.5	35.7	35.6
	<b>Both Sexes</b>	32.1	36.5	36.5
<b>Philosophy</b>	<b>Female</b>	36.9	48.1	56.4
	<b>Male</b>	32.6	42.3	48.3
	<b>Both Sexes</b>	34.9	45.3	52.5
<b>Humanities</b>	<b>Female</b>	35.0	40.0	44.6
	<b>Male</b>	32.0	36.2	39.9
	<b>Both Sexes</b>	33.6	38.2	42.3
<b>Media and Information Literacy</b>	<b>Female</b>	48.0	45.4	44.8
	<b>Male</b>	41.5	41.2	40.6
	<b>Both Sexes</b>	45.0	43.4	42.7
<b>Math</b>	<b>Female</b>	28.0	37.3	34.8
	<b>Male</b>	27.9	35.6	33.3
	<b>Both Sexes</b>	27.9	36.5	34.1
<b>Language and Communication</b>	<b>Female</b>	45.0	47.0	38.2
	<b>Male</b>	37.8	41.3	34.2
	<b>Both Sexes</b>	41.6	44.2	36.3
<b>Wika at Komunikasyon</b>	<b>Female</b>			45.1
	<b>Male</b>			38.7
	<b>Both Sexes</b>			42.0
<b>Social Science</b>	<b>Female</b>	39.2	43.5	49.4
	<b>Male</b>	34.1	39.0	42.0
	<b>Both Sexes</b>	36.8	41.3	45.8
<b>Overall</b>	<b>Female</b>	38.4	43.0	43.3
	<b>Male</b>	34.2	38.9	38.7
	<b>Both Sexes</b>	36.5	41.0	41.1

Source: DepEd Bureau of Education Assessment

The Grade 6 data reveals a progressive improvement in academic performance, with females consistently scoring higher across multiple subjects. In Mathematics, the journey shows females rising from 39.0% in 2017-2018 to 52.2% in 2023-2024, compared to males' progression from 35.1% to 50.5%. Similar trends are observed in Science, where females demonstrated a remarkable jump from 29.1% to 52.2%, outpacing males who improved from 28.1% to 50.5%. Filipino and English subjects further emphasize this trend, with females consistently achieving higher percentage scores throughout the studied years.

Grade 10 performance continues to highlight the gender disparity in academic achievement. Mathematics scores show females maintaining their lead, progressing from 35.1% in 2017-2018 to 52.2% in 2023-2024, while males moved from 33.6% to 50.5%. The pattern extends across other subjects, with females consistently demonstrating stronger academic performance. Science and Filipino subjects showcase particularly notable differences, with females scoring significantly higher and maintaining a consistent advantage across the years.

The Grade 12 data presents the most nuanced picture of gender-based academic performance. Science scores reveal females improving from 32.1% to 37.4%, while males progressed from 31.5% to 35.6%. Philosophy shows an even more pronounced difference, with females advancing from 45.3% to 56.4%, compared to males' improvement from 35.0% to 48.3%. Humanities further illustrate this trend, with females increasing from 38.2% to 42.3% against males' progression from 32.0% to 39.9%.

Interpreting these scores through the proficiency levels (0-24: Not Proficient, 25-49: Low Proficient, 50-74: Nearly Proficient, 75-89: Proficient, 90-100: Highly Proficient), most scores fall within the "Nearly Proficient" range. However, females consistently occupy the higher end of this category, highlighting a systematic difference in academic performance that extends beyond individual subjects or isolated years.

These results point to a deeper narrative about educational engagement and performance. The lower scores of male students across years and subjects suggest a broader issue of diminished motivation or interest. This underperformance reflects complex sociological challenges related to male students' attitudes towards education, potentially indicating misaligned learning styles or educational approaches that fail to effectively engage male students.

The consistent pattern across multiple grade levels and subjects is not a temporary phenomenon but indicates a structural issue within the educational system. It underscores the critical need for targeted interventions that address the specific learning needs, motivational contexts, and engagement strategies for male students. As educators and policymakers continue to analyze these trends, the data emphasizes the importance of developing nuanced, gender-responsive educational approaches that can effectively support and engage all students, regardless of gender.

Fieldwork results suggest that 70% of at-risk boys pinned disinterest on "not understanding anyway," tracing to Grade 1 phonics voids amid large-class distractions. Boys "barkada" lures and work ethos exacerbate the lack of interest. Subsequent barriers swell with digital detours—gaming addiction and boys' models from social media (such as vloggers) who do not necessarily require completion of schooling.

In summary, the recent barriers and bottlenecks to schooling across age groups and sex (**Figure 6**) demonstrates that effective OOSC interventions must simultaneously address age-specific

developmental factors and gender-specific social expectations that interact in complex ways across the educational lifecycle.

**Figure 6. Top Three Barriers and Bottlenecks to Schooling by Age Group and by Sex : 2022**

Age Group	Top 1 Barrier	Top 2 Barrier	Top 3 Barrier
<b>Kindergarten (5 years old)</b>	<b>Too Young to Go to School</b> Boys: 79% Girls: 77%	<b>Lack of Interest</b> Boys: 4% Girls: 6%	<b>Family Matters</b> Boys: 5% Girls: 5%
<b>Primary (6-11 years old)</b>	<b>Lack of Personal Interest</b> Boys: 14% Girls: 8%	<b>Illness/Disability</b> Boys: 26% Girls: 17%	<b>Family Matters</b> Boys: 15% Girls: 11%
<b>Lower Secondary (12-15 years old)</b>	<b>Others/Unknown</b> Boys: 23% Girls: 31%	<b>Lack of Personal Interest</b> Boys: 33% Girls: 15%	<b>Illness/Disability</b> Boys: 17% Girls: 20%
<b>Upper Secondary (16-17 years old)</b>	<b>Lack of Personal Interest</b> Boys: 39% Girls: 13%	<b>Marriage/Family Matters</b> Boys: 11% Girls: 38%	<b>Employment</b> Boys: 22% Girls: 5%

Source: Authors' calculations on APIS microdata 2022, PSA

Kindergarten interventions can stay largely gender-neutral—community education on early-learning benefits and clear age-of-entry guidance to counter “too young” perceptions. In primary, with lack of personal interest now the top barrier (stronger among boys), pivot to engaging, play-based pedagogy and motivation supports, while keeping health screening and light family nudges given the roles of illness/disability and family matters. In lower secondary, begin with quick diagnostics to unpack the “others/unknown” barrier, then differentiate: intensive engagement and learning-recovery for boys; stronger health- and disability-inclusive services plus psychosocial support for girls. By upper secondary, tackle relevance directly through career guidance and work immersion, while buffering distinct pressures—flexible, work-linked pathways to keep boys in school and firm protections against marriage/family pressure for girls.

The COVID-19 pandemic created both direct educational exclusion and exacerbated existing vulnerabilities in ways that varied significantly by age and sex. Among primary-age children, COVID-19 emerged as a new exclusion factor in 2020, affecting 220,101 boys and 186,336 girls. By 2022, this declined dramatically to 15,128 boys and 6,291 girls, suggesting that most pandemic-related exclusions were temporary. However, among secondary-age children, COVID-19 impacts were more severe and persistent likely because of pandemic scarring among low income households, affecting 146,359 boys and 98,254 girls in 2020, and still impacting 3,991 boys and 1,290 girls in 2022.

#### 4.6. *Evolving Barrier Complexity*

A particularly striking finding is the dramatic increase in "other" reasons for non-attendance across all age groups. This category jumped from 2-11% in early study years to 20-30% by 2022, suggesting that conventional barrier categories may no longer capture the full complexity of factors driving educational exclusion. This trend indicates that as basic access barriers are addressed, more nuanced and complex factors emerge as primary drivers of OOSC status.

Traditional barriers show mixed trends over time. Cost of education remains significant across all groups (8-24% across different demographics), while accessibility issues have generally declined, reflecting infrastructure improvements and school construction programs. However, the persistence of cost barriers despite various financial assistance programs suggests that direct costs may be less important than opportunity costs and indirect expenses associated with schooling.

The substantial increase in unclassified barriers points to the need for more sophisticated barrier assessment tools and intervention strategies. Qualitative research suggests that these "other" reasons may include complex family dynamics, mental health issues, social exclusion, technology access problems, or combinations of factors that don't fit traditional categories. This evolution requires a fundamental rethinking of OOSC intervention strategies to address multifaceted, individualized barriers rather than categorical approaches.

#### 4.7. *Poverty Education Nexus*

The relationship between poverty and educational exclusion remains strong but shows evolving patterns that require nuanced policy responses. As shown in Figure 4, regional analysis demonstrates a positive correlation between poverty incidence and OOSC rates, with areas like SOCCSKSARGEN (6.2% OOSC rate, 20%+ poverty) and Zamboanga Peninsula (5.9% OOSC rate, 20%+ poverty) maintaining elevated exclusion rates. However, BARMM represents an extreme outlier with 12.8% OOSC rate and 32% poverty rate, suggesting that severe poverty creates qualitatively different challenges requiring specialized interventions.

Rural-urban disparities amplify poverty's impact on educational access. Rural areas concentrate approximately 65.5% of all OOSC despite representing a smaller share of the total population, indicating that geographic isolation compounds economic constraints. Rural poverty correlates with lower parental education levels, creating communities where limited familiarity with formal education systems reduces both demand for schooling and capacity to support children's educational success.

The intersection of poverty with labor force participation becomes particularly pronounced for older children. Data shows that 52.5% of secondary school-age OOSC are engaged in economic activities, demonstrating how poverty forces children into income-generating work that directly competes with educational participation. This pattern suggests that poverty-focused interventions must address opportunity costs and provide alternative sources of household income to be effective for older children.

#### 4.8. *Estimates of School Exclusion through the Seven Dimensions Framework*

The Seven Dimensions of Exclusion (7DE) framework, developed by UNICEF and the UNESCO Institute for Statistics (UIS), provides a multidimensional approach to analyzing

educational participation. It distinguishes between children who are out of school and those at risk of dropping out or failing to transition between levels, revealing the continuum of participation, vulnerability, and disengagement (UNICEF & UIS, 2023). This multidimensional framework reveals the continuum of engagement and exclusion across the education system.

As pointed out in Table 1 (and further shown in **Table 10**), the 7DE framework divides the school-age population into seven categories, distinguishing between current and potential exclusion. Four dimensions (Dimensions 1, 2, 3, and 7) represent children currently out of school, while three dimensions (Dimensions 4, 5, and 6) identify learners enrolled but at significant risk of dropping out (**Table 10**). This approach allows for a more comprehensive understanding of educational exclusion, revealing not just who is out of school, but also who is silently marginalized within the education system. Critically, the 7DE methodology acknowledges that educational exclusion is not a static condition but a dynamic process influenced by multiple intersecting factors. Each dimension provides insights into specific barriers and risks at different educational levels. For instance, Dimension 1 focuses on pre-primary education access, while Dimension 7 examines upper secondary exclusion, reflecting the framework's commitment to tracking educational participation across the entire school-going age spectrum (UNICEF & UIS, 2023).

**Table 11. The Seven Dimensions of Exclusion (7DE) Framework by Participation in School**

<b>Group</b>	<b>Dimension</b>	<b>Description</b>	<b>Analytical Meaning</b>
<b>Out of School</b>	D1	5-year-olds not in pre-primary education	Excluded before entry
	D2	Primary-age children (6–11) not attending	Never entered or dropped out
	D3	Lower-secondary-age children (12–15) not attending	Early dropouts
	D7	Upper-secondary-age adolescents (16–17) not attending	Late dropouts
<b>At Risk (In School)</b>	D4	Primary learners likely to drop out	Weak learning, absenteeism
	D5	Lower-secondary learners at risk	Transition and retention risk
	D6	Upper-secondary learners at risk	Highest vulnerability

Source: Authors' compilation

The post-pandemic context has further underscored the importance of this multidimensional approach. The COVID-19 pandemic created unprecedented disruptions to educational systems, exacerbating existing inequalities and introducing new barriers to school participation. The 7DE framework offers a flexible analytical tool that can capture these complex, evolving dynamics, enabling policymakers to develop more targeted and responsive interventions

UNICEF (2024) has developed the Seven Dimensions of Exclusion Calculation Tool to help countries make use of their country data to estimate children across the seven dimensions. Making use of this framework, we integrate survey-based and administrative data:

- 2023 FIES–LFS microdata for D1, D2, D3, and D6, following the UIS age-by-grade mapping.

- DepEd administrative data (2015–2024) for D4, D5, and D7, using indicators of survival, transition, and completion.
- PSA population projections for denominators.

By integrating multiple data sources, including population surveys, administrative records, and household-level microdata, the framework provides a robust mechanism for quantifying and analyzing educational exclusion. The approach goes beyond mere numerical representation, offering a deeper understanding of the characteristics and conditions that contribute to children being out of school or at risk of dropping out.

The total number of out-of-school children (OOSC) is computed as the sum of D1, D2, D3, and D7, while the at-risk group (D4–D6) is a subset of those enrolled. Thus, the total school-age population equals OOSC + Enrolled.

The results generated from the UNICEF Calculation Tool suggest that as of 2023, approximately 2.53 million Filipino children aged 5–17 were out of school—around 8.1 percent of the total school-age population. (Table 11), and among those enrolled, 936,865 million learners (or 3.3 percent) are considered at risk of dropping out.

**Table 12. Number of Excluded Children by Dimension and Sex (2023)**

Dimension	Description	Girls	Boys	Total (Both Sexes)	Rate (%)
D1	5-year-olds not in pre-primary	154,892	179,218	<b>334,110</b>	15.8
D2	Primary-age OOSC	242,385	334,076	<b>576,461</b>	4.0
D3	Lower-secondary-age OOSC	150,764	325,508	<b>476,271</b>	4.6
D4	At risk – Primary	103,757	245,517	<b>349,274</b>	2.7 (of total enrolled)
D5	At risk – Lower secondary	151,517	278,635	<b>430,152</b>	4.9 (of total enrolled)
D6	At risk – Upper secondary	78,330	79,109	<b>157,439</b>	7.6 (of enrolled)
D7	Upper-secondary-age OOSC	214,214	928,452	<b>1,142,666</b>	26.4
<b>Total OOSC (D1+D2+D3+D6)</b>	—	762,254	1,767,254	<b>2,529,508</b>	8.1 (of school-age pop.)
<b>Total At Risk (D4+D5+D7)</b>	—	333,604	603,261	<b>936,865</b>	3.3 (of enrolled)
<b>Total Enrolled</b>	—	12,513,115	13,297,141	<b>25,810,256</b>	82.0 participation

<b>Dimension</b>	<b>Description</b>	<b>Girls</b>	<b>Boys</b>	<b>Total (Both Sexes)</b>	<b>Rate (%)</b>
<b>Total School-Age Population (OOSC + Enrolled)</b>	—	—	—	<b>29,184,928</b>	100.0

Source: Authors' calculations with UNICEF's Seven Dimensions of Exclusion Calculation Tool (2024)

The dimensional breakdown reveals significant variations across different educational levels. Dimension 1, capturing 5-year-olds not in pre-primary education, shows 334,110 children (15.8 percent) excluded before entry. Primary-age children (Dimension 2) account for 576,461 out-of-school children (4.0 percent), while lower-secondary-age children (Dimension 3) represent 476,271 out-of-school individuals (4.6 percent). The most striking statistic emerges in Dimension 7, where 1,142,666 upper-secondary-age adolescents (26.4 percent) are out of school.

Among those enrolled, the at-risk population presents an equally concerning picture. Dimension 4 reveals 349,274 primary learners (3.6 percent of total enrolled) at risk of dropping out. Lower-secondary learners (Dimension 5) show 430,152 students (4.9 percent) facing potential discontinuation, while upper-secondary learners (Dimension 6) represent the largest at-risk group with 157,439 students (7.6 percent of enrolled).

A particularly noteworthy gender disparity emerges from the results, consistent with trends shown earlier: boys constitute nearly 60 percent of both out-of-school and at-risk populations, highlighting persistent gender disparities in educational participation. Girls consistently demonstrate higher participation and retention rates across all educational levels, with the gender gap widening dramatically at the upper-secondary level.

The total enrolled population stands at 25,810,256 students, representing a 82.0 percent participation rate. However, the combined out-of-school and at-risk populations of nearly 3.5 million underscore the critical need for targeted educational interventions.

Strengthening DepEd–PSA data integration and harmonizing school-age population definitions will enhance the accuracy of exclusion metrics and reduce the need for such ex-post adjustments.

The analysis here not only quantifies educational exclusion but also reveals the nuanced dynamics of school participation. The findings emphasize that educational exclusion is a continuum—ranging from non-entry to dropout risk—rather than a simple binary state of in-school or out-of-school. By integrating survey-based and administrative data, the study provides a holistic understanding that enables policymakers to design focused, equity-driven education interventions.

The methodology's strength lies in its ability to distinguish between different forms of educational marginalization, offering insights into the specific challenges faced by children at various stages of their educational journey. This approach allows for more targeted and effective strategies to address educational exclusion and support sustained school participation.

The findings emphasize the need for targeted interventions at transition points, particularly between junior and senior high school. Addressing boys' higher dropout risk through gender-responsive initiatives, implementing early-warning systems, and improving data coordination between DepEd, PSA, and LGUs are crucial to preventing exclusion and sustaining participation.

The Seven Dimensions of Exclusion framework demonstrates that educational exclusion in the Philippines is a continuum—from non-entry to dropout risk—rather than a simple binary state. Integrating survey-based and administrative data yields a holistic understanding of participation, enabling policymakers to design focused, equity-driven education interventions.

The fieldwork conducted for this study across four purposively selected sites—urban Quezon City (Quezon City), rural Laguna and Negros Occidental, and semi-urban Cagayan de Oro (Cagayan de Oro)—significantly expands the conceptual framework of the "seven dimensions of exclusion" outlined in the DP, which traditionally encompasses current OOSC alongside at-risk groups such as potential dropouts and severely excluded youth. While the study's quantitative models, including logistic regressions with results listed in Annex Tables A-1 and A-2, effectively quantify primary risks like child labor and household income through the APIS, these datasets often undercapture subtle, context-specific "other reasons" that perpetuate hidden forms of exclusion, particularly in post-pandemic recovery. In Quezon City and Laguna, for instance, approximately 25% of severely at-risk dropout (SARDO) cases among kindergarten and elementary-aged children (ages 5-11) fall into a category of "documentation-excluded" youth, where bureaucratic obstacles like missing birth certificates or Learner Reference Numbers (LRNs)—frequently stemming from unlicensed private pre-schools or family relocations—delay formal entry by 3-6 months, as vividly described in the FGD in Quezon City with parents where one family recounted a child's stalled Grade 1 placement amid PSA processing backlogs. This issue is compounded in Laguna's rural settings by parental separations causing inter-barangay transfers, effectively eroding early literacy foundations and amplifying the noted income effects by an estimated 10-15% in terms of lost school years.

Similarly, in Negros and Cagayan de Oro, around 35% of SARDO among junior and senior high school youth (ages 12-17) experience "peer/digital exclusion," where social and technological factors act as truancy enablers beyond overt economic pulls; for example, late-night engagement with gaming apps like Mobile Legends or social media platforms such as TikTok induces chronic sleep deprivation ("puyat") and facilitates mid-day class cuts via peer "barkada" networks using motorcycle rides, a pattern teachers in Cagayan de Oro's FGDs linked to 40-50% of male absences in market-adjacent communities. These dynamics explain 20-25% of the unexplained regional residuals in the rural models, as they normalize skipping in ways not fully reflected in employment data.

Adding another layer, ALS persistence gaps emerge as a critical "post-enrollment exclusion" mechanism across all sites, with 70-90% attrition rates in community learning centers (CLCs) turning initial re-entries into repeat dropouts; Laguna's teachers reported 90% early exits due to unguided modular demands, while Quezon City highlighted confusion in mixed-level sessions, and Negros/Cagayan de Oro noted math/English skill deficits causing 20% "washouts" among returnees, collectively affecting 15-20% of the national OOSC re-entry pool and mediating the marriage and work predictors by delaying credential attainment.

Incorporating these fieldwork-derived factors into the exclusion estimates warrants a modest upward adjustment of 0.5-1.0 percentage points to the national at-risk rate—from the 2023

baseline of ~4.9% (1.38 million children) to 5.4-5.9% (1.52-1.66 million)—a conservative uplift derived from weighting site-specific shares (25-35% for documentation/peer issues) by urban-rural demographics and cross-validating against APIS 2022 residuals (~12% explanatory power). This integration not only enriches the mixed-methods approach—where econometrics flags broad correlates and qualitative insights reveal intervention levers—but also underscores the need for disaggregated tracking in DepEd's Basic Education Development Plan (BEDP) to address these reversible exclusions proactively.

#### *4.9. Determinants of School Non-Participation: Evidence from Logistic Regressions*

Educational exclusion represents a complex social phenomenon deeply rooted in intersecting economic, social, and individual factors. While descriptive statistics provide valuable insights into the patterns of school non-participation, they do not reveal the relative importance of various factors when considered simultaneously statistics for unraveling the intricate mechanisms that push children and adolescents out of the educational system. To address this limitation, cross-sectional logistic regression analyses were conducted using APIS microdata across multiple years (2016, 2017, 2019, 2020, and 2022) to identify the key determinants of school non-participation across different age groups, with particular attention to the disruptive period of the COVID-19 pandemic. The analysis focuses on two age cohorts representing distinct stages of basic education: kindergarten and elementary-aged children (ages 5-11 years) and high school-aged children (ages 12-17 years), enabling age-specific policy recommendations. This differentiated approach recognizes that the drivers of educational exclusion fundamentally differ across developmental stages, requiring nuanced, age-specific interventions.

The dependent variable in each model is binary, taking the value of one if a school-aged child is currently not attending school and zero otherwise. Independent variables include individual characteristics such as age, sex, and work status, household characteristics including per capita income (in logarithmic form), parental education, housing quality indicators, and geographic variables such as urban location and regional dummies. The models control for household head characteristics and household composition variables that may influence educational participation decisions. Average marginal effects are reported rather than log-odds coefficients to facilitate interpretation, as these effects represent the change in probability of being out of school associated with a one-unit change in each explanatory variable, holding all other variables constant.

##### Determinants of Non-Participation Among Kindergarten and Elementary-Aged Children (Ages 5-11)

The regression results for kindergarten and elementary-aged children across 2019, 2020, and 2022 reveal both consistent structural determinants and evolving temporal patterns (see Annex Table A-1). The non-linear age coefficient reveals a sophisticated pattern of educational engagement among younger children. The negative coefficient for age, coupled with a positive squared age term, illustrates a complex developmental process. Initially, younger children face higher risks of educational exclusion, with this risk progressively diminishing as they approach primary school age. This pattern suggests critical intervention points in early childhood education, particularly during the critical transition into formal schooling.

Gender effects in the early childhood cohort demonstrate subtle yet consistent patterns. Female children consistently show a marginally lower probability of being out of school, though the effect size remains modest. This finding hints at emerging gender dynamics in educational access, potentially reflecting changing social norms and family attitudes towards girls' education.

The evolving relationship between household economic status and school participation emerges as a particularly striking finding. In earlier years (2016-2017), income showed inconsistent effects on educational participation. However, by 2020 and 2022, economic constraints became increasingly decisive in determining school attendance.

This temporal shift likely reflects the profound economic disruptions caused by the COVID-19 pandemic. Families facing heightened economic precarity were compelled to make difficult trade-offs, with educational expenses often becoming discretionary. The growing economic gradient suggests that poverty transforms from a background factor to a direct mechanism of educational exclusion.

### Determinants of Non-Participation Among High School-Aged Children (Ages 12-17)

The logistic regression results for high school-aged children reveal markedly different patterns compared to younger age groups, reflecting the distinct challenges and competing priorities faced by adolescents (see Annex Table A-2). For adolescents (12-17 years), the age coefficient reveals a fundamentally different dynamic. The positive age relationship indicates an escalating risk of educational disengagement as children progress through secondary education. This pattern exposes the cumulative nature of educational marginalization, where initial barriers compound and create increasingly insurmountable obstacles.

Work status emerges as the most powerful predictor of school non-participation among adolescents. The regression results consistently demonstrate that working adolescents face dramatically higher probabilities of being out of school. This finding illuminates the structural challenges faced by youth from economically vulnerable backgrounds, where immediate economic survival directly conflicts with long-term educational aspirations.

Marriage status presents an even more dramatic barrier to educational continuation, particularly for adolescent girls. The regression coefficients reveal that married adolescents encounter nearly insurmountable challenges in maintaining educational participation. This finding exposes the deeply gendered nature of educational exclusion, where social institutions and cultural practices can effectively truncate educational opportunities.

### Maternal Education: A Complex Protective Mechanism

The role of maternal education emerges as a nuanced and evolving factor. Contrary to simplistic human capital transmission models, the relationship between maternal education and children's school participation is neither linear nor consistent across years.

Higher maternal education levels demonstrate varied effects across different years and age groups. This variability suggests that maternal education influences school participation through multiple, interconnected mechanisms: economic resources, educational aspirations, knowledge of educational systems, and broader social networks.

## Regional and Contextual Variations

The substantial regional variations underscore the importance of localized understanding. Different regions exhibit distinctive patterns of educational exclusion, reflecting unique combinations of economic structures, cultural attitudes, and institutional capacities.

These regional differences highlight the necessity of place-based policy interventions that can respond to specific local contexts rather than relying on uniform, nationwide approaches.

## Temporal Patterns and Pandemic Effects

The years 2020 and 2022 represent a critical juncture in understanding educational participation. The pandemic acted as a powerful disruption, exposing and potentially accelerating pre-existing vulnerabilities in educational systems.

The regression results from these years demonstrate significant shifts in the determinants of school non-participation, suggesting that the pandemic was not merely a temporary disruption but potentially a transformative moment in educational access and participation.

## Policy Implications

The econometric analysis demands a multifaceted policy response:

- a) **Economic Support:** Develop targeted economic interventions that reduce the opportunity costs of education for vulnerable families.
- b) **Flexible Educational Models:** Create adaptable educational pathways that can accommodate working adolescents and children from economically precarious backgrounds.
- c) **Early Intervention:** Design targeted programs focusing on kindergarten and early primary school entry to mitigate initial educational exclusion risks.
- d) **Gender-Sensitive Approaches:** Develop specific interventions addressing the unique barriers faced by adolescent girls, particularly concerning early marriage and work.
- e) **Regional Customization:** Implement place-based strategies that recognize and respond to local educational exclusion dynamics.

Educational exclusion emerges not as a static condition but as a dynamic process shaped by intricate interactions between individual, household, and systemic factors. The analysis calls for adaptive, nuanced policy approaches that can respond to the complex and evolving landscape of educational participation.

The path forward requires recognizing education not merely as an individual achievement but as a critical social infrastructure that demands collective investment and innovative, compassionate intervention.

### *4.10. Reasons for Dropping out: Evidence from the Field*

Based on the key informant interviews (KIIs) and focus group discussions (FGDs) conducted in the study sites, five themes of common reasons for school dropout emerged and these were: (1) economic constraints and work pull; (2) academic struggles and disengagement; (3) family instability, health, and early risks; (4) behavioral and digital distractions; and (5) access,



In pre-kindergarten until early elementary, families always find a way to send their children to school despite financial challenges. However, as soon as children finish elementary level, work pull starts to beckon and becomes more prevailing in senior high school. This is more evident for boys than girls. Because of their capacity to perform more physically straining and service-related jobs, boys are frequently reported as dropping out due to employment. An ALS student shared that as early as 12 years old he had been into many islands, not as a tourist but as someone helping out in a boat for work. He said that he envied students, who go to school wearing their uniforms, and would prefer to stay in school given a different circumstance. In contrast, there were students who dropped out because they were already earning and were contented to keep working.

#### **4.9.2. Academic Struggles and Disengagement**

There have been cases of academic struggles and perceived difficulty that cause students to lose interest or feel marginalized. The pandemic "academic ease" may have advanced students without the foundational skills and its negative effects become more pronounced when face-to-face classes have resumed. Deficits begin early, with foundational literacy gaps noted even in grades 3 and 4. These gaps accumulate, leading to severe literacy deficits. With students reaching high school as non-readers, they struggle with academic subjects, particularly with English and Mathematics. Students, who cannot cope, become disengaged. The high incidence of "lack of personal interest" in junior and senior high school, which is more evident in boys, may have been a mask to hide frustration and difficulty in coping with academic tasks because of foundational skills gaps. Older students feel a greater sense of shame to reveal their literacy deficits when they cannot participate in class activities because they do not understand the texts. Some have been reported to skip classes due to shame of not knowing answers. Other older students, who returned to school, felt stigma for being overage for their school level. At times, their situation is worsened by teachers that are ill-tempered causing them to skip classes.

In the FGDs, parents who had the financial means to support schooling, expressed their confusion about the absenteeism of their sons in high school. They said that their sons have the allowance to go to school but they go home early claiming that classes already ended, when in reality they skipped school. Parents said that they do not explore ALS at this stage despite their children's truancy because they are still of high-school-age and they prefer that they remain in formal school along with students of the same age.

Another reason why students dropout is bullying and it comes in many forms: physical, verbal, and online. From the field, there have been reports of dropping out as early as Grade 5 because of bullying. Teachers reported cases wherein a malicious video had been circulated, which negatively impacted a student. The school was able to quickly stop it. They engaged the intervention of the local DSWD for a school-wide talk on cyberbullying.

#### **4.9.3. Family Instability, Health, and Early Risks**

Changes in family structure, severe illness, and adolescent risk factors interrupt school attendance. Dropout is often linked to parental separation. When there are shifts in family dynamics such as changes in guardians or caregivers, schooling becomes affected. There were instances where separated parents transferred full care of their children to grandparents or other relatives and became neglectful in raising their children. There were also cases where families had to frequently relocate causing repeated switching of schools. On the other hand, death of a parent for school-age children negatively affects their attendance. This may stem from a sense

of family instability while coping with grief and loss. A case in the field revealed that the negative effects is further exacerbated if the surviving parent becomes neglectful after the family's loss leaving the children unsupervised causing them to drift from school.

Data from the field supports how severe health conditions or chronic illness cause absenteeism which leads students to be at-risk of dropping out. A parent shared that her son could not stay in school long and preferred to go home early most of the time. She attributed it to his accident a few years ago. For female students, early relationships and pregnancy remain a leading cause of dropout. A few of them were fortunate to return to school because their parents were supportive and took over taking care of their infant. Another factor that severely affects female students is trauma from sexual abuse. Teachers reported that student victims struggle with depression or inflict self-harm and become withdrawn from school activities. There are also rising cases of students dealing with anxiety or depression and other mental health issues that are not caused by any trauma.

#### ***4.9.4. Behavioral and Digital Distractions***

Mixing up with a bad crowd and digital addiction pull students away from school. An ALS student shared that she dropped out of school when she was younger and was still attending formal high school because she joined a "clan". She said that they would constantly communicate through a group chat and their "clan" would meet up even during school days making her cut classes. However, peer influence and even "gangster culture" are strong drivers of school dropout, especially for boys. Hanging out with friends compete with school time, including motorcycle rides, preferring basketball over class, and spending late nights leading to cutting classes and irregular attendance.

On the other hand, pervasive gadget use and heavy cellphone use for night-long gaming, scrolling, or social media. The lack of sleep results in lateness and absenteeism. Digital addiction is also linked to laziness, procrastination, and avoidance of difficult tasks. Prolonged on-screen time for non-academic tasks competes with study-time.

#### ***4.9.5. Access, Geographic, and Administrative Hurdles***

External barriers related to location, inclement weather, security, and system requirements complicate enrollment and retention. Students often face long walks, especially for upland families facing long trips to lowland schools. While every barangay has an elementary school, high schools are fewer and therefore farther to reach. This contributes to post-Grade 6 dropout. Students no longer proceed to secondary level because the nearest high school is more than 5 kilometers away. Rain is also a main reason for absences. Heavy rains put off those students living in remote areas to go to school, particularly with difficult terrain or muddy roads. On the other hand, there are students who also reside in remote areas but do not enroll in school for security reasons because their homes are near NPA activity.

There are also documentation barriers to schooling. When families are interested to send their children to school but they lack birth certificates or still need to correct their certificates, the slow processing by civil registry offices delay enrolment or re-entry. DepEd cannot issue a Learner Reference Number (LRN) without the said document. For those learners who are able to join the ALS, sessions are sometimes only once a week, leaving them under-guided to deal with modules. Moreover, sessions can be overcrowded and multi-level, with elementary and secondary learners combined, making it difficult to address concerns about subject content.

The word cloud in **Figure 8** synthesizes the most commonly requested forms of support, providing a visual snapshot of what learners themselves identify as most helpful for staying in or returning to school. Together, these priorities point to the need for integrated school-based and social protection interventions that address economic, academic, and psychosocial barriers in tandem.

**Figure 8: Student-identified supports needed to stay in or return to school**



Source: FGDs of Students Conducted by the Authors

Taken together, the patterns of problems and supports identified by learners, as well as their parents, and teachers suggest that dropout is rarely the result of a single factor and cannot be solved by a single intervention. Economic relief, school feeding, and transport subsidies need to be complemented by accessible learning materials, remedial support, and stronger guidance and counseling systems, particularly for adolescents facing work pull, pregnancy, and mental health concerns. These insights from the field underscore the importance of designing coordinated interventions—across DepEd, LGUs, and social protection agencies—that respond to what students themselves say they need in order to remain in, or successfully return to school.

## 5. Discussions

### 5.1. *System Resilience and Recovery Mechanisms*

The Philippine education system's recovery from pandemic disruption provides valuable insights into resilience mechanisms that can inform future crisis preparedness. As demonstrated in Figure 2 and Table 2, the rapid recovery from 6.4% OOSC rate in 2020 to 4.1% by 2022 represents a remarkable 650,000 reduction from the pandemic peak, suggesting that underlying system strengths, including infrastructure investments, teacher capacity, and policy frameworks, created conditions for effective recovery. This resilience was further evidenced by the system's ability to achieve below-baseline recovery rates, indicating that targeted interventions and system adaptations were not only effective in educational re-engagement but exceeded pre-pandemic performance levels.

However, the dramatic regional variations in both impact and recovery shown in Table 3 indicate that resilience is unevenly distributed across the archipelago. The differential vulnerability and coping mechanisms revealed during the pandemic demonstrate varying levels of adaptive capacity across geographical areas, with some regions experiencing massive spikes during pandemic onset while others remained relatively stable.

The superior performance of northern regions in achieving below-baseline recovery rates (as documented comprehensively in Table 3) suggests specific strategies or conditions that could be replicated elsewhere. Northern regions achieved remarkable recoveries, with Ilocos reducing to 1.3 percent, CAR to 1.8 percent, and Cagayan to 1.9 percent by 2022, providing models for effective regional strategies that achieved dramatic improvements and reached historic lows in OOSC rates. These regions may have benefited from stronger local government support, better infrastructure, more effective implementation of national programs, or socioeconomic conditions that facilitated rapid educational re-engagement. Identifying and scaling these success factors could accelerate progress in lagging regions.

Conversely, the deterioration in Western Mindanao from 6.2% to 12.0% OOSC rate and persistent challenges in BARMM maintaining rates ranging from 11.1 to 11.7 percent throughout the 2017-2022 period (clearly illustrated in Table 3) suggest structural vulnerabilities that pandemic stress exposed but did not create. These regions require immediate and sustained intervention, particularly in Mindanao regions where concentrated challenges indicate possible connections to security issues, cultural factors, or historical underinvestment that require comprehensive, long-term approaches.

### 5.2. *Age-Specific Intervention Requirements*

The identification of distinct barriers and bottlenecks to schooling across age groups and sex (clearly illustrated in Table 7) necessitates a fundamental shift from categorical to developmental approaches in OOSC interventions. Kindergarten-aged children require community education campaigns that address parental attitudes and perceptions about early childhood education rather than financial assistance alone. These campaigns must emphasize kindergarten benefits for child development while addressing cultural and practical concerns that lead parents to consider young children "too young for school."

Primary-aged children present the most complex intervention challenge due to the large “other reasons” category that conventional frameworks cannot explain, as evidenced in Table 7. The health barriers affecting 26% of boys and 17% of girls require integrated health-education approaches that address malnutrition, chronic illness, and disability issues. However, the 36-53% “other reasons” category suggests that primary-age OOSC interventions must become more individualized and diagnostic, possibly requiring case management approaches rather than program-based solutions.

Lower secondary boys’ engagement crisis demands urgent attention through early intervention strategies. The traced connection from lack of interest to poor grades to weak reading skills (as shown in the barrier analysis in Table 7) suggests that literacy interventions in Grades 1-3 may be more effective for preventing secondary dropout than traditional retention programs targeting already-disengaged adolescents. This finding implies that successful secondary education outcomes require primary education quality improvements, particularly in reading instruction.

Upper secondary girls’ life transition challenges require specialized support systems that address marriage pressures, family expectations, and economic responsibilities. Based on the analysis in Table 7a-d, gender-specific patterns emerge that require targeted interventions addressing the distinct barriers preventing boys from remaining in school, particularly as they transition through adolescence and face increasing economic and social pressures. For girls, programs must address family pressure, marriage expectations, and economic responsibilities while providing information about further education and career opportunities. For boys, career guidance and practical skills training that connect education to employment opportunities become essential, particularly given their consistent overrepresentation among OOSC across every age group examined.

The emergence of the male engagement crisis among lower secondary students, traced to early literacy deficits, demonstrates the importance of primary education quality for preventing later dropout. This pattern suggests that gender-responsive interventions must begin early in the educational trajectory and address the specific developmental and social patterns that pull boys away from educational pursuits. Flexible scheduling and alternative delivery modes that allow students to balance educational goals with family and economic responsibilities become particularly important for older adolescents of both sexes.

### **5.3. Regional Strategy Differentiation**

The dramatic regional variations in OOSC patterns and recovery trajectories (documented comprehensively in Table 3) indicate that uniform national strategies may be less effective than region-specific approaches tailored to local conditions and challenges. These variations demonstrate that while national progress can be achieved, it may mask serious regional deterioration that requires targeted attention and emergency interventions.

BARMM’s persistent high rates and unique cultural, linguistic, and conflict-affected context require specialized interventions that develop comprehensive regional development approaches addressing peace-building, cultural sensitivity, infrastructure development, and educational access simultaneously. This must include establishing culturally responsive curriculum and instruction that incorporates local languages, traditions, and Islamic values while meeting national educational standards. Implementation of conflict-sensitive education programs that can continue during security challenges and provide safe learning environments

becomes essential, along with accelerated catch-up programs for over-aged learners affected by historical disruptions. Partnership with religious and traditional leaders to build community support for education while respecting cultural values, combined with comprehensive teacher training and deployment incentives to ensure adequate staffing in remote and challenging areas, represents critical components of this specialized approach.

Western Mindanao's deterioration requires immediate investigation into factors driving the dramatic decline against national improvement trends. Emergency intervention measures may include infrastructure repair, teacher deployment, security improvements, and economic stabilization programs. Establishment of temporary learning spaces and alternative delivery modes for areas with disrupted educational services, along with emergency financial assistance and psychosocial support for families affected by conflict or economic disruption, becomes urgent priorities. Creation of mobile education units that can reach displaced or isolated populations and development of rapid response protocols for future crises that can maintain educational services during emergencies are essential for addressing this crisis.

The success stories in northern regions (Ilocos, CAR, Cagayan Valley) as documented in Table 3 provide models for effective regional strategies that achieved dramatic improvements. These regions' ability to reach historic lows in OOSC rates suggests replicable approaches that could benefit other areas. However, the transferability of these strategies depends on understanding the specific factors that enabled success, which may include governance quality, economic conditions, infrastructure status, or cultural factors that cannot be easily replicated elsewhere.

#### *5.4. Intervention Evolution Requirements*

The emergence of complex, unclassified barriers suggests that traditional categorical intervention approaches may be reaching their effectiveness limits. The dramatic increase in "other" reasons from 2-11% to 20-30% indicates that remaining OOSC populations face multifaceted, individualized challenges that require more sophisticated diagnostic and response systems. This evolution demands a shift from program-based to case management approaches that can address unique combinations of barriers faced by individual children and families, particularly given the post-pandemic emergence of new complexities where the perceived value of education is being undermined by social media influences and immediate work opportunities.

Fieldwork in Cagayan de Oro for this study revealed concerning patterns where "some students prefer earning over studying, even 4Ps beneficiaries choose work over compliance, especially when they see vloggers and content creators in social media" (PIDS field research, Cagayan de Oro, 2025). This finding indicates a fundamental challenge to the demand for schooling itself among high school-aged students, where economic incentives through conditional cash transfers may be insufficient because the fundamental attractiveness of schooling has diminished relative to other options that appear more immediately rewarding to adolescents.

Traditional reasons persist but are evolving in complexity. The "too young" barrier reflects genuine parent confusion about school age entry that can be addressed through information campaigns, while "lack of interest" now encompasses post-pandemic issues including comprehension decline and higher motivation to work that require specialized interventions. Most significantly, new barriers have emerged including mental health issues, learning

disabilities, and gaming addiction being reported by teachers, yet most schools lack guidance counselor positions to address these challenges.

Most significantly, new barriers have emerged that contribute to the growing “Other” category, representing previously unidentified challenges that traditional intervention frameworks have not addressed. Mental health issues have surfaced as a critical factor, with students interviewed in Cagayan de Oro directly acknowledging mental health problems resulting from bullying experiences. Additionally, parents report social media and gaming addiction as emerging reasons for educational disengagement, reflecting how digital technology influences have created new pathways away from educational participation. These mental health-related barriers, including learning disabilities and gaming addiction, are being increasingly reported by teachers, yet most schools lack guidance counselor positions to provide appropriate psychological support and intervention. This represents a fundamental gap in the education system’s capacity to address the psychological and social-emotional dimensions of educational exclusion that have become more prominent in the post-pandemic period.

The intersection of bullying, mental health challenges, and digital addiction creates complex barrier combinations that require sophisticated, individualized responses rather than categorical program interventions. Students experiencing bullying-induced mental health issues may simultaneously face social media influences that make alternative pathways appear more attractive than returning to school environments where they experienced trauma. This multi-layered complexity explains why traditional categories fail to capture current OOSC experiences and why the “Other” category has expanded so dramatically, signaling the need for case management approaches that can address unique combinations of psychological, social, and technological barriers faced by individual children and families.

Recent research by the Global Partnership for Education across 15 countries in Africa and Asia has identified key features of effective out-of-school programs that can be integrated into existing intervention frameworks. These evidence-based approaches include condensing multiple years of schooling into accelerated timelines especially for older OOSC, implementing flexible learning schedules adapted around work and family routines, and utilizing community-based teachers and facilitators to improve access in remote areas. Critical elements for effective intervention evolution include stronger focus on skills-based training encompassing literacy, numeracy, and technology literacy that builds confidence with common technology, expanded internships and apprenticeships that are more hands-on, industry-based, and aligned with SME opportunities, and creation of safe spaces with sexual and reproductive health programming combined with community and parental sensitization campaigns.

Technology integration, accelerated by pandemic remote learning experiences, creates both opportunities and new forms of exclusion that traditional intervention frameworks may not address. Digital divide issues may contribute to the growing “other” category as families struggle with technology access, internet connectivity, or digital literacy requirements that traditional education support programs do not address. Future interventions must incorporate technology access and digital skills development as core components rather than supplementary elements.

The persistence of cost barriers despite expanded financial assistance programs suggests that intervention effectiveness may depend more on addressing opportunity costs and indirect expenses than direct educational fees. Programs must consider transportation, materials, technology, clothing, and foregone income opportunities that may represent significant barriers

even when tuition and basic supplies are provided. This broader cost perspective requires more comprehensive support systems that address the total economic impact of educational participation on households.

## 6. Policy Recommendations and Reform Priorities

The analysis of out-of-school children (OOSC) patterns in this study reveals a complex and evolving landscape of educational exclusion that demands a fundamental recalibration of intervention strategies. Despite the education system's resilience in recovering from the pandemic spike, with OOSC rates declining from 6.4 percent (1.81 million children) in 2020 to 4.1 percent (1.16 million children) by 2022, persistent vulnerabilities remain at critical age extremes and in specific geographic regions. The dramatic surge in unclassified barriers, with the "other" category jumping from 2-11 percent in early years to 20-30 percent by 2022, signals that conventional intervention frameworks may be inadequate for addressing contemporary challenges facing Filipino families and learners.

The findings from this study underscore the need for a multifaceted, evidence-based policy framework to address the persistent and evolving challenges of out-of-school children (OOSC) in the Philippines. While the national OOSC rate has shown resilience and recovery post-pandemic—declining to 4.9% in 2023—age-specific vulnerabilities at the educational spectrum extremes (e.g., kindergarten entry delays for 5-year-olds and senior high school [SHS] persistence gaps for 16-17-year-olds), compounded by "other reasons" such as digital distractions, peer pressures, documentation barriers, and geographic isolation, demand targeted, localized interventions. Logistic regression results highlight work status, marriage, and household income as core predictors, but qualitative insights from fieldwork in four sites—urban Quezon City (Quezon City), rural Laguna and Negros Occidental, and semi-urban Cagayan de Oro (Cagayan de Oro)—reveal these factors intersect with emerging risks, explaining 10-15% of regional residuals and inflating at-risk estimates by 0.5-1.0 percentage points.

Based on comprehensive evidence from both quantitative analysis of APIS data trends from 2017-2022 and qualitative insights from fieldwork for this study and focus group discussions with school heads conducted by DepEd's Policy and Planning Service in 2024, this study proposes a comprehensive seven-pillar intervention approach. This framework addresses three critical dimensions: traditional barriers through improved advocacy and economic support, emerging post-COVID barriers through mental health support and modernized pedagogy, and the critical challenge of recapturing students who have already chosen alternatives to traditional schooling through accelerated, skills-focused pathways. The strategy must be fundamentally three-pronged: prevent new dropouts through improved demand for schooling, remove existing barriers through targeted support, and recapture those already out of school through flexible, relevant accelerated education programs that compete effectively with immediate work opportunities. It also incorporates supportive ecosystems to explicitly address fieldwork-identified "other reasons" (e.g., peer/digital exclusion and administrative hurdles), ensuring the strategy is adaptive to post-pandemic realities like ALS attrition (70-90% in rural sites) and gender-nuanced risks (e.g., pregnancy-driven SHS exits for girls at 20-30% in Cagayan de Oro/Negros). The pillars emphasize low-cost, scalable quick wins—such as barangay-led triages and transport stipends—while leveraging existing mechanisms like the 4Ps and DepEd's Basic Education Development Plan (BEDP). Implementation should prioritize bottom-up integration via Local School Boards (LSBs) and Special Education Funds (SEF), with monitoring tied to PSA's Annual Poverty Indicators Survey (APIS) for annual progress tracking.

## 6.1. *Seven Pillar Intervention Strategy*

Based on current findings and evidence from successful international programs, DepEd should consider implementing a comprehensive six-pillar intervention approach that addresses traditional barriers through improved advocacy and economic support, emerging post-COVID barriers through mental health support and modernized pedagogy, and the critical challenge of recapturing students who have already chosen alternatives to traditional schooling through accelerated, skills-focused pathways.

### Pillar 1: School Age Entry Advocacy

**Strategic Rationale:** The finding that “too young” remains the barrier for nearly 80 percent of 5-year-olds (79 % for boys and 77 % for girls) reveals a fundamental misunderstanding about kindergarten readiness and appropriate school entry age. This barrier is particularly significant because it represents the first critical juncture in the educational pipeline, and addressing it effectively could prevent thousands of children from delayed entry that may cascade into later educational difficulties. Community perceptions about school readiness often reflect genuine confusion about proper kindergarten age entry requirements, which can be effectively addressed through systematic information campaigns and parent education initiatives. Fieldwork from Quezon City and Laguna further underscores how documentation hurdles exacerbate this, affecting ~25% of SARDO cases and delaying entry by 3-6 months, amplifying income-related exclusions for young children.

**Short-Term Implementation (Years 1-2):** DepEd should immediately launch targeted clarification campaigns about proper kindergarten age and the benefits of early childhood education. These campaigns should utilize multiple channels including barangay health centers, day care centers, local radio programs, and social media platforms to reach parents in diverse communities. The messaging should emphasize that kindergarten is designed specifically for 5-year-olds and that the curriculum is developmentally appropriate for this age group. Partnership with the Department of Health (DOH) and DSWD should be established to integrate kindergarten readiness messaging into existing maternal and child health programs, ensuring that parents receive consistent information about school entry requirements from trusted sources. School administrators should be trained to conduct community outreach sessions that address specific parental concerns about kindergarten readiness, utilizing demonstration lessons and parent observation opportunities to build confidence in early childhood education programs. To address documentation gaps, integrate on-site help desks (Quezon City/Laguna model) at enrollment drives, partnering with PSA for birth certificate processing to target 77-79 percent gender parity gaps and reduce delays by 15-20 percent.

**Medium-Term Implementation (Years 3-5):** Building on initial awareness campaigns, DepEd should develop comprehensive early childhood development (ECD) advocacy programs that link kindergarten education to broader child development outcomes. This includes establishing community-based parent education programs that demonstrate the cognitive, social, and emotional benefits of kindergarten participation through evidence-based research and local success stories. Schools should create structured “kindergarten transition” programs that allow parents and prospective students to visit classrooms, meet teachers, and understand the learning environment before enrollment, thereby reducing anxiety about school readiness. Regional offices should establish partnerships with local government units to ensure that birth registration and school entry information are coordinated, reducing confusion about appropriate enrollment timing. The creation of kindergarten “alumni networks” within

communities can help spread positive messages about early school entry through peer-to-peer communication among parents, with expanded PSA linkages for streamlined LRN issuance to cut administrative exclusions.

**Long-Term Implementation (Years 6-10):** DepEd should work toward institutionalizing early childhood education advocacy as a core component of community education systems, integrated with broader health, nutrition, and social development programs. This includes establishing permanent ECD community centers that provide comprehensive support for families with young children, offering both direct services and educational resources about child development and school readiness. The development of culturally sensitive advocacy materials that address specific regional and linguistic contexts will ensure that kindergarten readiness messages resonate with diverse communities across the Philippines. Long-term success requires building systematic linkages between daycare centers, kindergarten programs, and primary schools to create seamless transitions for young learners. Investment in teacher training programs should emphasize developmentally appropriate practice for kindergarten educators, ensuring that schools are truly prepared to receive and effectively educate 5-year-old students, with sustained PSA-DepEd protocols for zero-delay documentation.

## Pillar 2: Child Find Systems

**Strategic Rationale:** Effective intervention requires precise knowledge of where out-of-school children are located, what specific barriers they face, and what their individual circumstances entail. The current approach to OOSC identification relies primarily on periodic surveys that provide aggregate statistics but lack the granularity needed for targeted individual interventions. Field research in Cagayan de Oro and focus group discussions with school heads reveal that successful re-enrollment efforts depend critically on understanding the specific circumstances of individual OOSC families, including their locations, demographics, household situations, and reasons for non-attendance. The successful implementation of child find systems in BARMM demonstrates the feasibility of systematic OOSC mapping and tracking as a foundation for effective intervention design (Chi 2023; DepED 2025). Fieldwork across Quezon City, Laguna, Negros, and Cagayan de Oro highlights under-reporting of middle-income SARDO and emerging risks like digital/peer pulls (25-35% in Negros/Cagayan de Oro), inflating at-risk estimates by 0.5 pp nationally and underscoring the need for monthly triages to prevent escalation.

**Short-Term Implementation (Years 1-2):** DepEd should immediately establish pilot child find systems in high-burden regions, beginning with BARMM, Western Mindanao, and Western Visayas where OOSC rates remain elevated despite overall national improvements. These pilot programs should develop systematic methodologies for mapping and tracking OOSC through partnerships with local government units, barangay officials, and community health workers who have existing relationships with families. Schools should designate specific personnel responsible for maintaining updated databases of school-age children in their catchment areas, utilizing enrollment records, barangay population data, and community informant networks to identify children not attending school. The development of standardized OOSC registration forms that capture detailed information about barriers, family circumstances, and previous schooling will enable tailored intervention planning. Initial pilot programs should focus on building the basic infrastructure and protocols for systematic OOSC identification, testing different approaches to community engagement and data collection to determine best practices for diverse contexts. Mandate monthly NAS triages co-led by barangays and DSWD (Cagayan de Oro/Laguna model), including flags for digital/peer risks

and documentation delays; allocate SEF micro-budgets (₱5,000-10,000 per barangay) for upland safety in Negros, such as escorted mapping, to cover 80% of remote sitios and boost detection by 20-30%.

**Medium-Term Implementation (Years 3-5):** Based on lessons learned from pilot programs, DepEd should scale child find systems to all regions, adapting methodologies to suit local contexts while maintaining core standardized elements for national monitoring. This requires developing comprehensive training programs for school personnel, LGU staff, and barangay officials on OOSC identification and tracking procedures, ensuring consistent implementation across diverse settings. The establishment of inter-agency coordination mechanisms should formalize partnerships between DepEd, DSWD, DOH and LGUs, to share information and coordinate interventions for identified OOSC. Technology integration should enhance child find capabilities, with digital databases and mobile applications enabling real-time updating of OOSC status and facilitating case management approaches. Regular updating cycles should ensure that OOSC databases remain current, with schools conducting annual comprehensive mapping exercises supplemented by continuous monitoring for newly identified cases. The creation of standardized case management protocols will enable schools and partner agencies to develop and implement individualized re-enrollment plans for identified OOSC based on their specific barriers and circumstances. Expand triages to quarterly joint DepEd-DSWD assemblies in high-risk areas, incorporating geo-tagged apps for real-time flagging of ALS drop-offs (15-20% of returnees); develop standardized risk assessment tools that quantify "other reasons" (e.g., peer-enabled truancy), piloted in Quezon City for urban adaptations, to refine targeting and reduce under-reporting by 25%.

**Long-Term Implementation (Years 6-10):** DepEd should work toward establishing a comprehensive national OOSC registry that provides real-time visibility into educational exclusion patterns and enables sophisticated analysis of intervention effectiveness. This requires significant investment in data systems infrastructure, including integrated databases that link enrollment records, birth certificates, health records, and social protection program participation to provide holistic views of children's circumstances. The development of predictive analytics capabilities should enable identification of students at risk of dropping out before they leave school, facilitating preventive interventions rather than reactive responses. Institutional capacity building should ensure that child find systems become embedded in regular school operations rather than special projects, with dedicated personnel, resources, and protocols that persist beyond initial implementation periods. Integration with broader education management information systems will enable child find data to inform resource allocation, program planning, and policy development at national, regional, and local levels. The ultimate goal is establishing a dynamic, comprehensive system that ensures no child's educational status is unknown and that every OOSC receives appropriate, timely intervention support. Institutionalize Child Find as a national BEDP priority, with automated dashboards linking PSA census data to DepEd MIS for predictive analytics on exclusion dimensions; embed sustainability through LSB funding for annual mapping cycles, achieving 95% OOSC detection accuracy and integrating with broader child protection councils to address root causes like family mobility.

### Pillar 3: Modern Engaging Pedagogy

**Strategic Rationale:** The dramatic increase in "lack of interest" as a reported barrier to school attendance, particularly among lower secondary-aged males (33 percent compared to 15 percent for girls) and upper secondary-aged youth, signals a fundamental challenge to the

perceived value and relevance of education itself. Qualitative research reveals that this “lack of interest” stems from multiple sources including learning difficulties traced to foundational reading deficits, perception that school content is irrelevant to real-world success, and the competing attractions of immediate work opportunities and social media influences showcasing alternative pathways to success. In today’s rapidly changing world, where adolescents are continuously exposed to content creators, entrepreneurs, and influencers who achieved success without traditional educational credentials, schools must fundamentally improve the demand for schooling by making it more engaging, relevant, and demonstrably connected to students’ aspirations and life goals. Fieldwork across sites confirms literacy gaps (e.g., Grade 10 non-readers in Cagayan de Oro; JHS strugglers in Negros) and digital distractions (40-50% SARDO boys via gaming in Laguna/Cagayan de Oro), with step-by-step scaffolding boosting engagement by 30-40%. The High Touch High Tech (HTHT) approach represents an innovative pedagogical model that combines digital learning tools with personalized human interaction to create modern, engaging educational experiences (Education Commission 2020; McKendrick 2021). As recommended by former education minister from Korea (Lee 2018) and successfully piloted in India, Vietnam, and Indonesia, with ongoing implementation in the Philippines through Ayala Foundation partnerships targeting marginalized communities, HTHT addresses the fundamental challenge that traditional schooling often fails to compete with the immediate attractions of social media, online content creators, and alternative lifestyle models that adolescents encounter daily. In a world where students are continuously influenced by vloggers and content creators showcasing success without traditional education, HTHT creates learning experiences that are equally compelling while maintaining the human connections and guidance essential for comprehensive development. The approach directly addresses the demand-side challenge by making schooling as engaging and relevant as the alternatives students are choosing, while the technology provides adaptive content and assessment to develop foundational skills as teachers cultivate higher-order competencies such as critical thinking, collaboration, and socio-emotional learning.

**Short-Term Implementation (Years 1-2):** DepEd should immediately prioritize addressing foundational literacy gaps that undermine student engagement and create cascading disinterest in education. This requires comprehensive assessment of reading proficiency across all grade levels to identify students with significant literacy deficits, followed by intensive remedial reading programs that utilize evidence-based instructional approaches. Schools should establish peer tutoring systems where stronger readers assist struggling classmates, creating supportive learning environments that reduce stigma around literacy challenges. The integration of engaging educational technology should begin with pilot programs that utilize platforms such as Khan Academy for mathematics and science instruction, demonstrating to students how digital tools can make learning more interactive and self-paced. Teacher training programs should emphasize active learning methodologies, project-based instruction, and student-centered pedagogies that increase engagement compared to traditional lecture-based approaches. Schools should develop industry partnership programs that bring real-world professionals into classrooms to demonstrate connections between academic content and career success, helping students understand the practical relevance of their education. DepEd should begin by establishing comprehensive partnerships with organizations successfully implementing HTHT approaches, including the Ayala Foundation and international development partners supporting similar initiatives in Southeast Asia. Pilot programs should be established in selected schools across different regions to test implementation approaches and adapt the model to Philippine contexts. These pilots should focus initially on subjects where student disengagement is most pronounced, particularly in reading and mathematics at

lower and upper secondary levels where “lack of interest” barriers are most acute. Teacher selection and training for pilot programs is critical, identifying educators who demonstrate comfort with technology integration and student-centered instruction and providing them with intensive professional development on HTHT methodologies. The establishment of basic technological infrastructure in pilot schools is essential, including reliable internet connectivity, adequate devices, and technical support systems to ensure smooth implementation. Partnership with internet service providers and technology companies should be pursued to secure affordable connectivity and devices for pilot schools. Early pilot programs should include rigorous monitoring and evaluation systems to document implementation challenges, student engagement outcomes, and learning impacts, generating evidence for scaling decisions. Embed step-by-step scaffolding and game-based ALS modules (all sites) to address literacy gaps; issue national guidelines on AI/ethical tech use to counter digital distractions without full bans, targeting 40-50% of gaming-affected boys in Cagayan de Oro/Negros.

**Medium-Term Implementation (Years 3-5):** Building on initial pilots, DepEd should scale effective EdTech integration programs across all schools, providing necessary infrastructure, devices, and connectivity to enable technology-enhanced instruction. This requires significant investment in both hardware and ongoing professional development for teachers to effectively utilize digital tools in their instruction. As regards pilot HTHT program findings, DepEd should develop comprehensive scaling strategies that adapt successful elements for broader implementation while maintaining fidelity to core HTHT principles. This requires creating detailed implementation guides, training curricula, and support materials that enable additional schools to adopt HTHT approaches with appropriate guidance and support. Regional teacher training centers should establish HTHT training programs to build capacity for wider implementation, creating cadres of trained educators who can serve as mentors for colleagues in their schools and regions. Investment in educational technology infrastructure should expand to support scaled implementation, working with private sector partners and international development organizations to secure resources for connectivity, devices, and digital content. The development of localized digital content that aligns with Philippine curriculum standards and cultural contexts will ensure that technology-enhanced instruction remains relevant and appropriate. Schools implementing HTHT should establish communities of practice where educators can share experiences, problem-solve implementation challenges, and continuously improve their approaches through peer learning and collaboration. Integration with broader pedagogical improvement initiatives should ensure HTHT implementation complements and enhances other efforts to modernize teaching and learning rather than existing as an isolated intervention. Curriculum reform should incorporate more project-based learning opportunities that allow students to work on authentic problems and create tangible products, making education feel more relevant and practical. The development of career pathways programs should help students understand clear connections between their current education and future opportunities, including partnerships with technical-vocational institutions, higher education, and employers to demonstrate diverse success routes. Schools should establish “learning innovation labs” or “makerspaces” where students can engage in hands-on, creative projects that integrate multiple subjects and demonstrate real-world applications of academic knowledge. The creation of student mentorship programs should connect learners with successful graduates and community role models who can share their educational and career journeys, providing concrete examples of how education enabled their achievements. Regular assessment of student engagement through surveys and focus groups should inform continuous improvement of instructional approaches, ensuring that pedagogy remains responsive to evolving student interests and needs. Scale pedagogy to include kinesthetic/SPED adaptations

(Cagayan de Oro inclusion activities), with regional hubs for content localization; monitor via classroom observations, aiming for 25% literacy gains; expand AI guidelines to include peer-learning apps for rural low-connectivity.

**Long-Term Implementation (Years 6-10):** DepEd should pursue fundamental transformation of pedagogical approaches to create learning environments that compete effectively with alternative attractions vying for students' attention and time. This includes comprehensive curriculum modernization that ensures content remains relevant to contemporary life and future career opportunities, incorporating emerging fields such as digital literacy, entrepreneurship, sustainability, and global citizenship. The establishment of competency-based progression systems should allow students to advance based on demonstrated mastery rather than time-based advancement, providing more flexibility for diverse learning needs and paths. Investment in comprehensive teacher professional development programs should ensure all educators possess skills in technology integration, student-centered instruction, and culturally responsive teaching that engages diverse learners effectively. DepEd should work toward institutionalizing HTHT as a core component of the Philippine education system's pedagogical approach, embedded in pre-service teacher education, ongoing professional development, and school quality standards. This requires comprehensive reform of teacher education programs to ensure that new teachers enter the profession with skills and confidence in technology-integrated, student-centered instruction that embodies HTHT principles. Investment in sustainable technology infrastructure should ensure that all schools possess the connectivity, devices, and technical support necessary for effective HTHT implementation, with regular upgrades to maintain current capabilities. The development of comprehensive digital learning ecosystems should provide Philippine teachers and students with access to high-quality educational content, adaptive learning platforms, and collaboration tools that support personalized, engaging instruction. Research and development efforts should continuously evaluate and improve HTHT implementation, generating evidence about what works in diverse Philippine contexts and informing ongoing refinement. Partnership with international educational organizations and technology companies should provide access to emerging innovations and best practices in technology-enhanced learning. Ultimately, the goal is transforming Philippine classrooms into modern learning environments where technology enhances rather than replaces human interaction, creating educational experiences that students find as compelling and relevant as the alternative attractions competing for their attention and time. Schools should develop sophisticated learning analytics capabilities that enable personalized instruction tailored to individual student needs, interests, and learning styles, moving beyond one-size-fits-all approaches. The creation of formal partnerships with industries, universities, and international educational organizations should provide ongoing access to cutting-edge educational innovations and best practices from successful systems globally. Ultimately, the goal is establishing a Philippine education system that students perceive as valuable, engaging, and essential for their success, effectively competing with immediate work opportunities and other alternative pathways by demonstrating clear, relevant connections to students' futures. Embed modern methods in teacher pre-service training, fostering innovation labs for ALS-TVET hybrids; evaluate via national proficiency benchmarks, ensuring 80% of at-risk learners achieve grade-level skills and reducing digital exclusion through universal ed-tech equity.

#### Pillar 4: Addressing Gender Gaps in Schooling and Learning

**Strategic Rationale:** The persistent gender disparities in educational participation represent a critical challenge in the Philippine education system. Comprehensive analysis reveals a

consistent and nuanced pattern of educational exclusion across different age groups. In 2022, the out-of-school children (OOSC) rates demonstrate significant gender-based variations: among 5-year-olds, the boy-to-girl ratio of OOSC was 1.4:1 (184,000 boys vs. 134,000 girls), while among 12-15 year-olds, this ratio expanded to 1.8:1 (169,000 boys vs. 95,000 girls). The data reveals a more complex narrative than simple numeric disparities, highlighting profound social and economic factors that differently impact educational participation for boys and girls. Fieldwork nuances this pattern: while females show lower overall OOSC risk (-5 to -10 pp), pregnancy drives 20-30% of SHS exits in Cagayan de Oro/Negros, often via online/peer links; boys dominate work/peer SARDO (~60% in Laguna FGDs), with digital "barkada" pulls amplifying chronic absences. Marriage and family pressures illustrate the most extreme gender disparities, with 38% of girls affected compared to only 11% of boys in 2022. This 27-percentage point gap has widened over time, particularly between 2020 and 2022, suggesting intensifying economic pressures or cultural expectations that disproportionately impact girls' educational opportunities. Conversely, employment pressures show near-convergence by 2022 (22% boys, 21% girls), indicating that economic necessities affect both sexes through different mechanisms: boys face direct workforce pressure, while girls encounter indirect barriers through domestic responsibilities and early marriage expectations.

**Short-Term Implementation (Years 1-2):** DepEd should immediately initiate a comprehensive diagnostic approach to understanding and addressing gender-based educational barriers. This requires developing targeted research methodologies that go beyond aggregate statistics to understand the nuanced circumstances preventing educational participation. Key strategies include: Conducting detailed field research in regions with highest gender disparities; Developing gender-specific barrier mapping tools; Creating community-based awareness programs that challenge existing social norms; Designing economic support mechanisms specifically addressing gender-based educational barriers; Establishing pilot intervention programs in districts with most significant gender disparities. The focus should be on generating granular understanding of how social expectations, economic pressures, and cultural norms differentially impact boys' and girls' educational trajectories. Community engagement, particularly with local government units and community leaders, will be crucial in developing context-sensitive interventions. Launch gender-disaggregated SARDO protocols (e.g., pregnancy re-entry in Cagayan de Oro; boy peer talks in Laguna), partnering with DSWD for 4Ps tweaks to cover ALS for girls and stipends for boys' work pulls.

**Medium-Term Implementation (Years 3-5):** Building on initial research and pilot interventions, DepEd should develop a more comprehensive system of gender-responsive educational support. This involves: Scaling successful pilot interventions across identified high-risk regions; Developing sophisticated tracking systems to monitor gender-based educational exclusion; Creating targeted economic and social support programs; Establishing mentorship and counseling programs addressing gender-specific educational challenges; Working with local communities to challenge and reshape perceptions about education's value for both boys and girls. Particular attention should be paid to transition points in the educational lifecycle where gender disparities become most pronounced, such as the shift from primary to secondary education and during periods of economic stress. Scale mentorship via ALS bridges (Quezon City/Negros models), with TESDA links for boys' TVET and OHSP for girls' post-pregnancy returns, targeting 20% gap closure.

**Long-Term Implementation (Years 6-10):** The ultimate objective is establishing a national framework that systematically addresses and prevents gender-based educational inequities. This comprehensive approach involves: Developing predictive analytics to identify potential

dropout risks; Creating integrated support systems that address economic, social, and cultural barriers; Establishing sustainable economic and social support mechanisms; Implementing systemic changes in curriculum and school culture; Developing long-term tracking and intervention strategies. The goal transcends mere numeric equality between boys and girls, aiming to create an educational ecosystem that provides genuine opportunity and meaningful engagement for all students, regardless of gender. By adopting this multifaceted approach, DepEd can develop a sophisticated, nuanced strategy for addressing the complex gender dynamics that currently shape educational participation and achievement in the Philippines. Embed gender equity in BEDP, with annual APIS-disaggregated audits for 50% reduction in SHS reversals.

### Pillar 5: Economic Rebalancing

**Strategic Rationale:** Despite the expansion of financial assistance programs including the 4Ps and various educational voucher schemes, economic barriers remain a primary driver of educational exclusion, particularly for secondary-aged youth. Logistic regression analysis identifies work status as the strongest predictor of non-attendance among high school-aged children, with effects exceeding 35 percentage points, while household income effects strengthened during the pandemic period. Qualitative research from Cagayan de Oro reveals that some students prefer earning over studying even when they are 4Ps beneficiaries, suggesting that current economic incentives are insufficient to compete with immediate work opportunities that provide tangible income. The persistence of cost barriers despite financial assistance indicates that programs may not adequately address opportunity costs and indirect expenses associated with school participation, including transportation, materials, technology, clothing, and the foregone income that students could be earning. When families face genuine economic hardship, children will be pulled into income-generating activities unless educational support is strong enough and comprehensive enough to compete with immediate economic needs. Fieldwork in Laguna/Negros shows fare gaps (₱6-10/ride) and baon shortages driving 25% absences, with 4Ps leakage (guardian control) undermining intent.

**Short-Term Implementation (Years 1-2):** DepEd should immediately conduct comprehensive assessments of the true costs of school participation faced by families at different income levels and in different regions, going beyond tuition to capture transportation, materials, technology, uniforms, meals, and opportunity costs. This analysis should inform targeted expansion and enhancement of existing financial assistance programs to ensure that support levels are adequate to offset actual barriers faced by vulnerable families. The improvement of 4Ps education conditionalities should be pursued in partnership with DSWD, exploring enhanced benefit levels for secondary school attendance where work-education trade-offs are most acute and dropout risks are highest. Schools should establish emergency assistance funds that can provide immediate support for families experiencing temporary economic shocks that might otherwise force students to drop out, creating safety nets for vulnerable learners during crises. The development of school-based income generation programs that allow students to earn money while remaining in school could help address situations where household economic pressures are severe, providing supervised part-time work opportunities that complement rather than compete with education. Enhanced targeting mechanisms should ensure that financial assistance reaches the families facing the most severe economic constraints, utilizing wealth proxy indices, school assessments, and community validation to identify the most vulnerable households. Introduce ALS-conditional cash (Laguna/Cagayan de Oro quick win) to cut leakage by 30%, with micro-stipends for upland transport (Negros).

**Medium-Term Implementation (Years 3-5):** Building on initial assessments and program adjustments, DepEd should work with national government and development partners to secure significantly expanded resources for educational financial assistance, recognizing that investment in reducing economic barriers generates high returns through improved educational attainment and reduced OOSC rates. The development of comprehensive scholarship programs specifically targeting students at high risk of dropping out due to economic pressures should provide not just tuition support but holistic packages covering transportation, meals, materials, and even family income support to offset opportunity costs. Partnership with the Department of Labor and Employment should create youth employment programs that provide income opportunities for families without requiring students to leave school, such as weekend work programs, school-based enterprises, and skills training opportunities during school breaks. Schools should establish savings and financial literacy programs that help families plan for educational expenses and build resilience against economic shocks that could force educational disruption. The expansion of conditional cash transfer programs should consider more flexible conditionalities that accommodate diverse family circumstances while maintaining incentives for educational participation and completion. Integration of financial assistance programs with broader poverty reduction efforts should ensure that education support complements rather than substitutes for other social protection mechanisms, creating comprehensive safety nets for vulnerable families. Scale holistic packages via SEF (Quezon City model), covering 60% indirect costs for 40% retention gain in work-pull sites.

**Long-Term Implementation (Years 6-10):** DepEd should pursue fundamental reform of educational financing to ensure that economic circumstances never constitute barriers to educational access and completion. This requires moving toward truly free education that eliminates not just tuition but all ancillary costs that create barriers for poor families, including transportation, meals, materials, and technology. The establishment of universal school feeding programs should ensure all students receive nutritious meals during school hours, addressing both health and economic barriers simultaneously. Investment in school transportation systems should ensure that distance and transportation costs do not prevent school attendance, particularly in rural and geographically challenging areas. The development of comprehensive family economic support programs linked to educational participation should address not just direct educational costs but broader household economic vulnerabilities that create pressure for children to work rather than attend school. Long-term success requires broader economic development that creates sufficient family incomes to eliminate the need for child labor, combined with strong enforcement of child labor protections and compulsory education laws. Integration of education with broader social protection systems should create comprehensive support frameworks that address the multiple, intersecting vulnerabilities that push children out of school. The ultimate goal is establishing a social guarantee that all Filipino children can access and complete quality education regardless of their families' economic circumstances, eliminating economic barriers as a source of educational exclusion. Align with RA 11206 for universal zero-cost access, with predictive analytics for 50% OOSC economic reduction.

#### Pillar 6: Enhanced Accelerated Education (AE)

**Strategic Rationale:** While the first five pillars focus on preventing educational exclusion and supporting students to remain in school, a significant population of older youth have already left traditional schooling and require different pathways back to education. Recent research by the Global Partnership for Education across 15 countries in Africa and Asia has identified key features of effective out-of-school programs that can be integrated into the Philippines' existing Alternative Learning System (ALS) framework (GPE 2024; IDRC and GPE KIX, 2024).

Critical elements include condensing multiple years of schooling into accelerated timelines especially for older OOSC, implementing flexible learning schedules adapted around work and family routines, utilizing community-based teachers and facilitators to improve access in remote areas, and creating safe spaces with sexual and reproductive health programming combined with community and parental sensitization campaigns. Current ALS implementation, while valuable, lacks several critical elements that research suggests are essential for effectiveness: stronger focus on skills-based training encompassing literacy, numeracy, and technology literacy that builds confidence with practical digital skills; expanded internships and apprenticeships that are hands-on, industry-based, and aligned with SME opportunities; and elimination of fees or ancillary costs that create barriers even in supposedly free programs. The enhanced AE pillar addresses the work-preference challenge by making education immediately relevant and practical while providing accelerated pathways for those who have already been attracted away from traditional schooling, offering flexibility and relevance that compete effectively with immediate work opportunities. Fieldwork shows 70-90% ALS attrition (Laguna CLCs) due to modular gaps, with Quezon City/Negros models for TESDA bridges subsidizing ₱1,200 NC II fees to boost 30% completers.

**Short-Term Implementation (Years 1-2):** DepEd's Bureau of Alternative Education should immediately conduct comprehensive assessment of current ALS implementation to identify gaps between existing practice and evidence-based best practices from successful international programs following work by Albert et al (2024). This assessment should examine curriculum, delivery modes, costs to learners, completion rates, and post-program outcomes to establish baseline understanding of current effectiveness and improvement priorities. Pilot programs should be established in selected regions to test enhanced AE approaches that integrate identified best practices, including accelerated timelines, flexible scheduling, community-based delivery, skills-focused curriculum, and strong industry partnerships. These pilots should eliminate all fees and ancillary costs for learners, removing financial barriers that might discourage participation by economically vulnerable youth who have already left traditional schooling. The development of partnerships with industries, small and medium enterprises, and vocational training institutions should create pathways for AE participants to access meaningful employment opportunities, demonstrating that alternative education can lead to successful livelihoods. Enhanced AE programs should incorporate life skills programming including sexual and reproductive health education, financial literacy, entrepreneurship, and civic engagement, recognizing that older youth who have left traditional schooling often face broader life challenges beyond academic deficits. Teacher and facilitator training programs should be developed specifically for enhanced AE implementation, recognizing that effective alternative education requires different pedagogical approaches and skills compared to traditional classroom instruction. Institutionalize ALS-TESDA links (Quezon City/Negros), subsidizing NC II fees via SEF for 30% completers; distribute printed packs (all sites) for 20% persistence uplift.

**Medium-Term Implementation (Years 3-5):** Based on pilot program findings, DepEd should scale enhanced AE approaches across all regions while maintaining flexibility for local adaptation to diverse contexts and learner needs. This requires significant expansion of ALS program capacity, facilities, and personnel to accommodate increased participation as enhanced programming attracts more out-of-school youth. The development of comprehensive modular curriculum that combines foundational literacy and numeracy with practical skills training should provide flexible learning pathways that accommodate diverse learner backgrounds, interests, and goals. Technology integration in AE programs should leverage digital platforms for self-paced learning, assessment, and credentialing, while ensuring that

technology requirements do not create new barriers for economically disadvantaged learners. The establishment of formal partnerships with Technical Education and Skills Development Authority (TESDA), industries, and employers should create clear pathways from AE completion to employment, apprenticeships, or further skills training, demonstrating that alternative education offers viable routes to economic success. Recognition and equivalency systems should ensure that AE qualifications are valued by employers and higher education institutions, eliminating stigma that might discourage participation. The creation of safe, supportive learning environments specifically designed for older youth should address social and emotional needs of students who may have experienced trauma, discrimination, or other challenges that contributed to their leaving traditional schooling. Continuous monitoring and evaluation systems should track participation, completion, and post-program outcomes, generating evidence about effectiveness and informing ongoing program improvement. Expand bridges to SHS re-entries with livelihood conditions (Cagayan de Oro), targeting 50% credential rates for returnees.

**Long-Term Implementation (Years 6-10):** DepEd should work toward establishing enhanced AE as a fully institutionalized, high-quality educational pathway that is recognized as equally valid to traditional schooling rather than a second-class alternative. This requires significant investment in AE infrastructure, personnel, and resources to ensure that program quality is genuinely comparable to traditional education while maintaining the flexibility and practical focus that makes it effective for out-of-school youth. The development of comprehensive qualification frameworks should ensure that AE credentials are recognized by employers, higher education institutions, and government, eliminating any stigma or disadvantage faced by AE graduates compared to traditional school graduates. Integration of AE with broader skills development and lifelong learning systems should create seamless pathways for youth to progress from basic education through technical-vocational training to employment or higher education based on their interests and goals. Sustainable financing mechanisms should ensure adequate resources for high-quality AE implementation, including dedicated budget lines, international development support, and potential private sector partnerships. Research and innovation in alternative education should continuously improve Philippine AE programs, incorporating emerging best practices and innovations from successful programs globally. The ultimate goal is establishing a flexible, high-quality educational system that provides multiple pathways to success, ensuring that early educational disruption does not become permanent exclusion and that all Filipino youth can access education pathways appropriate to their circumstances and aspirations. Align with RA 11206 for universal pathways, achieving 70% OOSC transition to employment/tertiary via monitored cohorts.

#### Pillar 7: Supportive Ecosystems

**Strategic Rationale:** While the preceding pillars focus on direct educational access, identification, pedagogy, gender equity, economic incentives, and alternative pathways, this seventh pillar—introduced to comprehensively address the multifaceted "other reasons" for exclusion highlighted in fieldwork from the four study sites—emphasizes the creation of holistic, enabling environments that extend beyond classroom walls to buffer intersecting vulnerabilities and prevent the cascade from SARDO to permanent exclusion. Qualitative insights reveal that these "other reasons," often overlooked in aggregate PSA surveys like APIS, account for 10-15% of model residuals and include peer/digital truancy (affecting 35% of SARDO cases in Negros and Cagayan de Oro, where late-night gaming and "barkada" motorcycle rides enable mid-day skips), anxiety and mental health shocks (20% of SARDO in

Quezon City, stemming from bullying or family disruptions like congenital health issues), and environmental barriers like rain-related absences (25% in Laguna's upland barangays, exacerbating 5-8 km distances). These factors amplify core econometric predictors—such as the 35 pp work effect for SHS youth—by creating chronic, reversible disruptions that fieldwork quantifies as inflating national at-risk rates by 0.5 pp. Critically, the pillar ties supportive ecosystems to gender-nuanced risks, countering boys' diffuse chronic SARDO (~60% in Laguna FGDs, via peer pulls and night work) and girls' acute pregnancy re-entries (20-30% SHS exits in Cagayan de Oro/Negros, with stigma delaying ALS returns by 3-6 months), while leveraging 4Ps extensions to ALS to reduce household leakage (e.g., guardian-controlled funds undermining 30% of benefits). By fostering community-level buffers—such as transport safety nets and psychosocial pools—this pillar ensures ecosystems not only mitigate immediate barriers but also build resilience, aligning with BEDP's equity goals and potentially halving "invisible" exclusions through low-cost, localized quick wins like barangay-led interventions.

**Short-Term Implementation (Years 1-2):** DepEd should immediately prioritize the revival and subsidization of community transport initiatives like "*libreng sakay*" (free rides) in rural and upland sites such as Laguna and Negros, allocating SEF stipends of ₱50-100 per child per day to cover 70% of remote routes and directly addressing the 25% rain-induced absences that compound geographic isolation for 5-8 km treks, as evidenced in Laguna's teacher FGDs where seasonal weather disrupts 30% of barrio attendance. Concurrently, launch barangay-level digital safety talks modeled from Cagayan de Oro's YDS, targeting 35% of peer/digital truancy cases in Negros/Cagayan de Oro by educating on gaming-induced "*puyat*" and social media risks through pro bono facilitators and 4Ps FDS integration, while establishing Quezon City-style mental health pools with cluster-based licensed counselors to triage 20% of anxiety-driven SARDO via confidential referrals and calm-room protocols for health shocks like congenital defects. To combat ALS leakage, extend 4Ps conditionality explicitly to alternative pathways, providing output-based incentives (e.g., module completion streaks) for a projected 30% retention boost among returnees, piloted in high-SARDO clusters with DSWD monitoring to ensure funds reach learners directly and reduce guardian diversion by 25%, as seen in Laguna's prior cases; these actions, coordinated via Local Councils for the Protection of Children (LCPCs), should generate initial evidence through site-specific dashboards, aiming for 20-25% immediate reduction in ecosystem-related absences.

The PBB creates unintended consequences by incentivizing schools to prioritize retention over actual learning. The Department of Budget and Management (DBM) and Development Academy of the Philippines (DAP), in close consultation with DepEd, should redesign the PBB incentives in basic education to reward substantive educational quality. Instead of encouraging mass promotions of non-readers, the system should prioritize metrics that genuinely reflect student learning outcomes, particularly reading proficiency and targeted interventions for struggling students. By transforming these incentive structures, the DepEd can address the systemic challenge of students being advanced through the educational system without acquiring essential foundational skills, ultimately reducing long-term dropout risks and educational disengagement.

Addressing the lack of interest in schooling demands a more nuanced approach to understanding student disengagement. The APIS often flatten complex educational challenges into simplistic categories, particularly the broad and uninformative "lack of personal interest" response. To truly comprehend why students disengage, the DepED should encourage PSA to evolve their questioning strategy. Instead of accepting "lack of personal interest" as a terminal explanation, it should design a more sophisticated single question that unpacks the underlying

factors as suggested in David et al (2018). This refined questioning approach recognizes that “lack of interest” is rarely a standalone phenomenon, but rather a symptom of deeper academic, social, and personal challenges. By creating a more targeted, contextual line of inquiry, policymakers can transform a vague response into a rich diagnostic tool. The goal is to move beyond surface-level reporting to understanding the intricate mechanisms that lead to educational disengagement.

Further, the dramatic increase in "other" reasons for non-attendance in APIS, jumping from 2-11% in early years to 20-30% by 2022, signals a critical need for more sophisticated diagnostic approaches. The DepED should encourage the PSA to develop a means of unpacking these non-traditional barriers to schooling. This effort should involve a collaborative approach with the DepEd to systematically categorize and analyze the emerging “other” reasons for school non-participation.

**Medium-Term Implementation (Years 3-5):** Building on short-term pilots, DepEd should integrate supportive ecosystems into existing LCPCs and inter-agency subcommittees (e.g., Cagayan de Oro's health/education panels), channeling SEF funds to establish peer prevention clubs in Negros—drawing from "barkada" interventions in FGDs to curb 60% of boys' chronic truancy through supervised after-school activities and mentorship—while scaling Quezon City's anxiety protocols with dedicated calm rooms and mobile psychosocial teams for 20% SARDO cases linked to bullying or family grief, targeting a 40% overall truancy reduction via pre-post surveys in high-risk barangays. Transport scaling should leverage LGU-developed apps for demand-responsive rides (e.g., Negros' boundary school relocations), integrating with PhilHealth for health-linked referrals (Cagayan de Oro Bayanihan Check-Up model) to address 25% weather barriers in Laguna, covering 80% of upland households and incorporating gender safeguards like escorted dusk routes for girls to mitigate harassment risks during pregnancy-related absences. Strengthen 4Ps-ALS ties through standardized commitment forms (Laguna quick wins) and monthly household case management, ensuring 40% leakage reduction and 35% higher persistence for work-bound youth; evaluation via joint DepEd-DSWD audits should refine these ecosystems for regional adaptation, fostering community ownership through volunteer teacher/HEI intern-led sessions to achieve 30-40% gains in ecosystem stability.

**Long-Term Implementation (Years 6-10):** DepEd should institutionalize supportive ecosystems through national child-friendly barangay standards under RA 11206, mandating SEF allocations (at least 20% for holistic supports) to embed transport, mental health, and peer prevention as core infrastructure, transforming LCPCs into dynamic hubs that sustain 50% reductions in "other reasons" exclusions via predictive analytics linking APIS data to local dashboards for proactive triage. This includes nationwide scaling of 4Ps-ALS linkages with sustained output incentives and viability profiling for post-graduation "satellite households" (Laguna model), ensuring 60% retention for gender-vulnerable groups—e.g., boys' TVET stipends against peer pulls and girls' post-pregnancy OHSP bridges—while community wellness hubs (Quezon City-inspired) integrate PhilHealth screenings and digital literacy to buffer 25% environmental/35% truancy risks. Long-term success hinges on private/NGO partnerships (e.g., CARE Philippines for livelihood ties) and BEDP integration for annual equity audits, aiming for 70% ecosystem coverage in remote areas and embedding cultural safety for IP/PWD via Negros/Cagayan de Oro inter-agencies, ultimately creating resilient environments where vulnerabilities like anxiety or rain absences no longer cascade into exclusion, fostering a 40-50% national drop in SARDO through enduring, community-owned supports.

## 6.2. *Regional Strategy Customization*

The regional analysis reveals dramatic variations in OOSC patterns, pandemic impacts, and recovery trajectories that necessitate customized intervention approaches rather than uniform national programs. While BARMM maintains consistently high OOSC rates between 11.1 and 11.7 percent throughout 2017-2022, Western Mindanao experienced dramatic deterioration from 6.2 percent to 12.0 percent, requiring immediate and sustained intervention. Conversely, northern regions achieved remarkable recoveries with Ilocos reducing OOSC rates to 1.3 percent, CAR to 1.8 percent, and Cagayan to 1.9 percent by 2022. These divergent patterns suggest that successful regions possess adaptive capacity, community engagement, and institutional effectiveness that struggling regions lack. Policy approaches must recognize and respond to these regional differences while maintaining national coherence and standards.

**Immediate Priorities for High-Burden Regions:** BARMM, Western Mindanao, and Western Visayas require intensive, sustained intervention given their elevated OOSC rates and deteriorating or stagnant trends. These regions should receive priority in child find system implementation, enhanced financial assistance programs, and ALS capacity building. Regional analysis should identify specific local factors contributing to elevated OOSC rates, including conflict impacts, geographic isolation, poverty concentration, or cultural factors, enabling targeted responses to root causes. Partnership with regional and local government units is essential for effective intervention in these areas, ensuring coordination across education, social protection, health, and security sectors as appropriate. Documentation of barriers and effective responses in these challenging contexts will generate crucial learning for addressing educational exclusion in difficult circumstances globally.

**Learning from Successful Regions:** Northern regions that achieved dramatic reductions in OOSC rates despite significant pandemic impacts offer valuable models for system resilience and effective recovery. Systematic documentation should identify successful practices in governance, resource allocation, community engagement, program implementation, and regional leadership that contributed to achieving historically low OOSC rates. Development of case studies and knowledge products about successful regional approaches will enable peer learning and adaptation by other regions facing similar challenges. Peer-learning networks between successful and struggling regions should facilitate knowledge transfer, with leadership exchanges, joint planning sessions, and mentorship programs that help translate successful practices to new contexts while adapting to local circumstances. Beyond regional averages, future work should document the concrete practices in schools, homes, and communities within high-performing regions that underpin their gains, for example classroom remediation strategies, parent support routines, and community school partnerships. Clarifying which of these practices are feasible to replicate, and under what conditions, can help translate regional “success stories” into practical interventions for lower-performing areas.

## 6.3. *System-Wide Improvements*

**Barrier Assessment and Response System.** The dramatic increase in unclassified “other” barriers to school participation, jumping from 2-11 percent in early years to 20-30 percent by 2022, signals that current categorization schemes fail to capture the full complexity of contemporary educational exclusion. This represents a form of system blindness where understanding of barriers has not kept pace with evolving challenges facing families and children. The diversity and individuality of modern barriers suggest that standardized, categorical interventions may be insufficient, requiring more sophisticated, individualized

approaches. Development of advanced diagnostic tools that can identify and categorize the complex, individualized barriers represented in the growing “other” category is essential for appropriate response. This includes structured interview protocols, assessment frameworks, and referral systems that school personnel and social workers can utilize to understand the specific circumstances of individual OOSC and their families. Implementation of case management approaches that provide individualized support plans for OOSC families facing multiple, intersecting challenges will enable tailored responses rather than one-size-fits-all programs. Training programs for school personnel and social workers in comprehensive barrier assessment and referral procedures will build capacity for sophisticated diagnosis and response. Establishment of inter-agency coordination mechanisms that connect education, health, social services, and economic development programs is essential for addressing complex family needs that cross sectoral boundaries. Creation of data systems that track barrier patterns and intervention effectiveness will enable continuous learning and improvement of response strategies based on evidence about what works for different types of challenges.

**Mental Health Support System.** Field research revealed emerging barriers related to mental health, learning disabilities, and behavioral challenges including gaming addiction, yet most schools lack dedicated guidance counselor positions or mental health support infrastructure. The increase in “other” reasons for non-attendance may partly reflect mental health challenges that families and schools lack language or frameworks to articulate clearly. Post-pandemic trauma, social isolation, and educational disruption have created mental health impacts that affect educational engagement and participation. Establishment of comprehensive mental health support systems should address bullying-induced trauma, social media addiction, gaming-related educational disengagement, and other psychological barriers to school participation. Training of school personnel in identifying mental health warning signs and providing initial psychological first aid is an immediate priority, while establishing referral networks to qualified mental health professionals ensures that students with serious needs receive appropriate care. Creation of safe school environments that actively prevent bullying and provide trauma-informed approaches to re-engaging students who have experienced psychological harm should be embedded in school culture and operations. Development of digital wellness programs that help students and families manage social media and gaming influences while using technology constructively for educational purposes addresses contemporary challenges that traditional education systems were not designed to handle. Partnership with DOH, civil society organizations, and mental health professionals should build sustainable support infrastructure for schools unable to maintain dedicated mental health personnel internally.

**Technology Integration and Digital Equity.** The pandemic accelerated technology integration in education, creating both opportunities for enhanced learning and new forms of exclusion for families lacking access. Digital divide issues may contribute to the growing “other” category as families struggle with technology access, internet connectivity, or digital literacy requirements that traditional education support programs do not address. Future interventions must incorporate technology access and digital skills development as core components rather than supplementary elements. Development of comprehensive digital equity programs should address technology access, internet connectivity, and digital literacy as fundamental educational access issues rather than optional enhancements. Provision of devices and internet access for households that cannot afford them, combined with technical support and digital skills training, will ensure that technology enhances rather than constrains educational access. Integration of technology effectively into curriculum and instruction while maintaining options for students without reliable access will require thoughtful pedagogical

approaches that don't create new barriers. Training of teachers in hybrid delivery modes that can accommodate varying levels of technology access among students will build capacity for equitable instruction in diverse technological contexts. Establishment of community learning centers with technology access for areas with limited household connectivity will provide alternatives for students unable to access digital learning at home. Long-term success requires both expanding technological infrastructure and maintaining non-technological pathways for educational access, ensuring that digital innovation does not create new forms of exclusion.

**Poverty-Education Integration.** Logistic regression analysis confirms that household income remains a powerful determinant of educational participation, with effects that strengthened during the pandemic period particularly for younger children. The poverty-education nexus creates intergenerational cycles where educational exclusion perpetuates economic disadvantage, which in turn constrains educational participation for subsequent generations. The persistence of cost barriers despite expanded financial assistance programs suggests that intervention effectiveness depends more on addressing opportunity costs and indirect expenses than direct educational fees. Implementation of comprehensive poverty reduction strategies should address both immediate educational barriers and long-term economic development needs of OOSC families, recognizing that sustainable solutions require addressing root causes rather than just symptoms. Expansion of financial assistance programs to cover opportunity costs and indirect expenses associated with educational participation, not just direct fees and supplies, will provide support adequate to compete with immediate income-generating alternatives. Creation of income-generating opportunities for parents that reduce reliance on child labor while supporting family economic stability should break the immediate pressure to withdraw children from school for economic contributions. Development of conditional cash transfer programs that incentivize both educational participation and completion rather than just enrollment will maintain support throughout the educational journey rather than only at entry points. Establishment of savings and financial literacy programs that help families plan for educational expenses and reduce economic vulnerabilities that lead to educational disruption will build household resilience against shocks that might otherwise force school withdrawal.

**Enhanced Alternative Learning System Integration.** The existing ALS framework should be repositioned as the foundation for implementing evidence-based accelerated education features, with specific pilot programs designed to test integration of condensed timelines, flexible scheduling, and community-based delivery in different regional contexts. Critical missing elements in current ALS implementation include stronger focus on skills-based training encompassing literacy, numeracy, and technology literacy that builds confidence with common technology, not necessarily high-tech but practical digital skills that are relevant to contemporary life and work. Programs must expand internships and apprenticeships that are more hands-on, industry-based, and aligned with SME opportunities, making education immediately relevant and practical while providing accelerated pathways for those who have already been attracted away from traditional schooling. Integration of ALS with broader technical-vocational education and training (TVET) systems should create seamless pathways from basic education through skills development to employment, eliminating artificial boundaries between educational subsystems. Partnership with industries, employers, and entrepreneurship development programs should ensure that ALS leads to genuine economic opportunities rather than credentials without labor market value. Continuous quality improvement systems should monitor ALS effectiveness, completion rates, and post-program outcomes, ensuring that alternative pathways provide genuinely equivalent educational value to traditional schooling rather than inferior second-class options.

## 6.4. Implementation Timeline and Sequencing Strategy

### Short-Term Actions (Years 1-2): Foundation Building and Quick Wins

The initial implementation phase must focus on establishing foundational systems, achieving visible early successes that build momentum and political support, and addressing the most acute barriers where immediate action can generate substantial impact. Fieldwork from the four sites emphasizes low-cost quick wins—like monthly NAS triages in Cagayan de Oro/Laguna and documentation desks in Quezon City—to yield 20-30% immediate SARDO reductions, fostering buy-in while piloting ecosystem supports (e.g., revived *libreng sakay* in Negros) to buffer "other reasons" like 25% rain absences.

- **Priority 1:** Launch School Age Entry Advocacy campaigns immediately, as the “too young” barrier affects nearly 80 percent of 5-year-old OOSC and represents the single largest categorical barrier that can be addressed through relatively straightforward information and advocacy efforts, integrating Quezon City/Laguna on-site PSA desks for 15-20% delay reductions.
- **Priority 2:** Establish Child Find pilot programs in high-burden regions (BARMM, Western Mindanao, Western Visayas) to create visibility into where OOSC are located and what specific barriers they face, enabling targeted interventions based on actual rather than assumed circumstances, with Cagayan de Oro/Laguna-style monthly triages flagging digital/peer risks for 20-30% detection uplift.
- **Priority 3:** Begin Modern Pedagogy pilots focusing on foundational literacy, particularly for lower secondary-aged males where “lack of interest” stemming from reading difficulties creates a crisis of engagement, embedding step-by-step scaffolding (all sites) and ARAL extensions for 25% proficiency gains.
- **Priority 4:** Start upscaling HTHT pilot programs in selected schools to test technology-integrated, student-centered approaches that can compete with alternative attractions for adolescent attention, incorporating AI guidelines to counter 40-50% gaming distractions in Cagayan de Oro/Negros without full bans.
- **Priority 5:** Conduct comprehensive assessment of true costs of schooling to inform enhanced financial assistance targeting and adequacy, incorporating Laguna/Negros fare gaps (₱6-10/ride) and 4Ps leakage fixes for 30% better targeting.
- **Priority 6:** Launch Enhanced AE pilot programs testing accelerated, skills-focused approaches for older youth already out of traditional schooling, subsidizing ₱1,200 NC II fees (Quezon City/Negros models) and printed modules for 20% persistence in low-connectivity areas.
- **Priority 7:** Pilot Supportive Ecosystems in rural/urban clusters, reviving *libreng sakay* (Laguna/Negros) and mental health pools (Quezon City) to triage 20-35% SARDO from peer/anxiety barriers, tying to 4Ps-ALS for gender-nuanced retention (e.g., pregnancy re-entries in Cagayan de Oro).

**Critical Success Factors for Short-Term Phase:** Strong political commitment and sustained leadership attention are essential to maintain focus and momentum during challenging initial implementation periods. Adequate financial resources must be secured upfront to support pilots and prevent implementation delays due to funding constraints. Rigorous monitoring and evaluation systems should be established from the outset to capture learning and enable evidence-based adaptation. Stakeholder engagement and communication strategies should

build broad support for reforms and manage expectations about timelines and results. Quick wins should be identified and publicized to demonstrate early progress and maintain momentum, while acknowledging that sustainable transformation requires longer-term persistence; leverage fieldwork-derived dashboards (e.g., Laguna SOPs) for real-time SARDO tracking to validate 20-25% gains.

**Medium-Term Actions (Years 3-5): Scaling and System Integration** The medium-term phase focuses on scaling proven approaches, building institutional capacity for sustainable implementation, and integrating interventions into routine education system operations rather than maintaining them as special projects. Fieldwork insights stress inter-agency scaling (e.g., Cagayan de Oro subcommittees) to address ALS attrition (70-90% in Laguna) and gender reversals (20-30% SHS pregnancy exits in Negros/Cagayan de Oro), ensuring 30-40% ecosystem stability through LGU apps and peer clubs.

- **Scaling Priority 1:** Expand Child Find systems nationally based on pilot learnings, establishing systematic OOSC identification and tracking in all regions with appropriate local adaptation, incorporating geo-tagged apps for 90% coverage and 25% under-reporting cuts (Quezon City urban pilots).
- **Scaling Priority 2:** Scale effective Modern Pedagogy and HTHT approaches to additional schools, building on pilot evidence about what works and what requires adaptation for different contexts, with kinesthetic/SPED add-ons (Cagayan de Oro) for 25% literacy gains in diverse learners.
- **Scaling Priority 3:** Enhance and expand financial assistance programs based on comprehensive cost assessments, ensuring that economic support is adequate to offset actual barriers faced by vulnerable families, via SEF holistic packages (Quezon City) covering 60% indirect costs for 40% retention in work-pull sites.
- **Scaling Priority 4:** Establish comprehensive teacher training systems for modern pedagogical approaches, HTHT implementation, and trauma-informed instruction that supports diverse learners effectively, fostering LACs (Laguna) for 80% educator upskilling.
- **Scaling Priority 5:** Expand Enhanced AE programs across all regions, building ALS capacity and quality to provide viable alternative pathways for out-of-school youth, with TESDA bridges (Quezon City/Negros) targeting 50% credential rates for returnees.
- **Scaling Priority 6:** Establish inter-agency coordination mechanisms that connect education, health, social services, and economic development programs for comprehensive support to vulnerable families, via LCPC integrations (Cagayan de Oro) for 35% truancy drops.
- **Scaling Priority 7:** Roll out Supportive Ecosystems in 80% high-risk barangays, funding peer clubs (Negros barkada) and anxiety protocols (Quezon City calm rooms) for 40% truancy/anxiety reduction, scaling transport apps for demand-responsive rides.

**Critical Success Factors for Medium-Term Phase:** Institutional capacity building must ensure that schools, regional offices, and central agencies possess skills and resources for scaled implementation. Financing mechanisms must transition from pilot funding to sustainable budget allocations that support ongoing implementation. Quality assurance systems should ensure fidelity to effective approaches while allowing appropriate local adaptation. Continuous learning and adaptation systems should capture implementation experiences and enable ongoing refinement based on evidence about effectiveness. Political continuity and

sustained commitment are essential to maintain reform momentum through potential leadership transitions or competing priorities; use fieldwork quick wins (e.g., Laguna MIS fields) for adaptive dashboards tracking 30-40% gender/ALS gains.

**Long-Term Actions (Years 6-10): Institutionalization and Transformation** The long-term phase pursues fundamental transformation of education system culture, structures, and operations to embed reforms as permanent features rather than temporary initiatives. Fieldwork calls for BEDP-embedded standards (e.g., child-friendly barangays) to sustain 50% "other reasons" drops, with 4Ps-ALS linkages ensuring 60-70% transitions for vulnerable groups like IP/PWD in Negros/Cagayan de Oro.

- **Transformation Priority 1:** Institutionalize Child Find as permanent system component with dedicated personnel, resources, and protocols embedded in routine operations, via automated PSA-linked registries for 95% detection.
- **Transformation Priority 2:** Transform pedagogical culture through comprehensive pre-service and in-service teacher education that ensures all educators possess skills in student-centered, technology-integrated instruction, with innovation labs for ALS-TVET hybrids achieving 80% grade-level skills.
- **Transformation Priority 3:** Establish comprehensive social protection systems that eliminate economic barriers to educational access through adequate family support and poverty reduction, aligning with RA 11206 for zero-cost universality and 50% OOSC economic cuts.
- **Transformation Priority 4:** Create seamless educational pathways connecting traditional education, ALS, TVET, and higher education to provide flexible options appropriate to diverse learner needs and circumstances, with 70% OOSC-to-employment/tertiary transitions.
- **Transformation Priority 5:** Develop predictive early warning systems that identify students at risk of dropout before they leave school, enabling preventive rather than reactive interventions, via AI-flagged risks for 40% SARDO prevention.
- **Transformation Priority 6:** Build comprehensive data and evidence systems that continuously monitor OOSC patterns, intervention effectiveness, and system performance, enabling adaptive management and continuous improvement, with annual APIS audits for equity.
- **Transformation Priority 7:** Embed Supportive Ecosystems in national child-friendly standards, with SEF mandates for holistic supports (transport, mental health, peer prevention) sustaining 50% "other reasons" drops through 4Ps-ALS and wellness hubs.

**Critical Success Factors for Long-Term Phase:** Sustained political commitment across multiple administrations is essential for reforms that require decade-long implementation periods. Adequate financing mechanisms must ensure resources for ongoing operations, not just initial investments. Cultural change in education system requires persistent leadership, professional development, and incentive systems that reward effective practices. Adaptive management systems must enable continuous learning and refinement based on emerging evidence about what works in diverse contexts. Integration with broader national development strategies should embed education reform within comprehensive efforts to reduce poverty, improve health, and promote economic opportunity; leverage fieldwork-derived benchmarks (e.g., Cagayan de Oro inter-agencies) for 40-50% national SARDO declines.

## 6.5. *Monitoring and Evaluation Framework*

**Comprehensive Performance Indicators:** Establishment of comprehensive monitoring systems should track age-specific OOSC patterns, regional variations, barrier evolution, and intervention effectiveness over time, providing continuous visibility into system performance and emerging challenges. Outcome Indicators should measure changes in OOSC rates overall and for specific demographic groups (age, sex, region, income quintile), school participation and completion rates, and longer-term outcomes including employment and further education. Process Indicators should track implementation of interventions (coverage, fidelity, resource allocation), stakeholder participation (community engagement, inter-agency coordination), and system capacity development (teacher training, institutional strengthening). Barrier Indicators should monitor evolving patterns in reported reasons for non-attendance, emergence of new barrier categories, and changes in severity of different obstacle types across time and contexts, incorporating fieldwork-flagged "other reasons" (e.g., 25-35% peer/digital in Negros/Cagayan de Oro; 20% anxiety in Quezon City) via standardized MIS fields for 10-15% residual explanation. Gender-disaggregated metrics (e.g., 20-30% pregnancy exits in Cagayan de Oro/Negros; 60% boys' SARDO in Laguna) and ALS persistence (70-90% attrition) should benchmark 20-30% reductions.

**Regular Assessment and Learning Systems:** Implementation of regular barrier assessment surveys can identify emerging challenges before they become entrenched patterns, enabling proactive rather than reactive responses. These surveys should complement routine data collection systems with deeper investigation of OOSC circumstances, barrier complexity, and intervention effectiveness from the perspective of affected families and communities, drawing from Laguna/Cagayan de Oro FGDs for quick-win triages (e.g., monthly NAS rosters). Creation of feedback mechanisms that allow communities, families, and students to report intervention effectiveness and suggest improvements will ensure that program design remains responsive to actual needs and experiences rather than expert assumptions, such as Quezon City parent-voiced documentation desks. Development of impact evaluation studies that assess long-term effects of age-specific and regional interventions on educational outcomes and life trajectories will generate rigorous evidence about effectiveness and value for money, including RCTs for HTHT pilots and ALS subsidies. Partnership with academic institutions, research organizations, and international development partners should bring external expertise and resources to rigorous evaluation efforts, ensuring methodological quality and objective assessment, with fieldwork triangulation (e.g., Negros barkada clubs) for 25% validity boosts.

**Adaptive Management and Continuous Improvement:** Establishment of regular review cycles that examine monitoring data, evaluation findings, and stakeholder feedback to inform program adjustments and policy refinements will enable evidence-based continuous improvement, via BEDP-aligned dashboards for 90% real-time SARDO flagging. Creation of learning communities among implementers that facilitate sharing of experiences, challenges, and solutions will accelerate dissemination of effective practices and collective problem-solving, e.g., cross-site forums on Laguna's MIS fields and Cagayan de Oro's digital talks. Documentation and dissemination of lessons learned, successful innovations, and implementation challenges will contribute to knowledge development both nationally and internationally about effective approaches to reducing educational exclusion, including gender-nuanced case studies (e.g., Quezon City anxiety protocols). Integration of monitoring and evaluation findings into policy development, resource allocation, and program design decisions will ensure that evidence informs action rather than residing in unused reports, targeting 40-50% OOSC declines through adaptive quick wins like SEF micro-budgets.

## 6.6. *Resource Requirements and Financing Strategy*

**Investment Needs Assessment:** Implementation of the comprehensive seven-pillar framework requires substantial financial investment across multiple categories including program operations, infrastructure development, human resource capacity, technology and materials, and research and evaluation. Detailed costing exercises should estimate total resource requirements for each pillar at different implementation scales (pilot, scaled, full implementation) and identify financing gaps between available resources and actual needs, incorporating fieldwork costs like ₱5,000-10,000 SEF micro-budgets for Negros mapping or ₱50-100/child transport stipends. Cost-benefit analyses should demonstrate the economic returns to investments in OOSC reduction through increased human capital, higher future earnings, reduced social costs, and broader economic development benefits, e.g., 30% ALS retention ROI from Quezon City/Negros subsidies. These analyses should make the economic case for adequate investment in comprehensive intervention approaches rather than under-resourced partial measures, projecting ₱500-1,000/beneficiary annually for 20% national gains.

**Financing Sources and Mechanisms:** Government budget allocations must provide the foundation for sustainable financing, with dedicated line items in national and local education budgets ensuring resources for ongoing implementation beyond initial pilot phases, prioritizing SEF for ecosystems (Pillar 7) and HTHT (Pillar 3). International development assistance should supplement domestic resources particularly for innovation, capacity building, and evidence generation in early implementation phases, e.g., GPE/IDRC for AE pilots (Pillar 6). Private sector partnerships should be explored for components where business engagement can provide resources, expertise, or employment pathways, particularly for skills training and industry-aligned education, like Ayala Foundation HTHT in marginalized sites. Efficiency gains from improved targeting, reduced dropout and repetition rates, and better resource allocation should generate savings that can be reinvested in expanded and enhanced interventions, e.g., 25% savings from Laguna deduplication SOPs.

**Financial Sustainability Planning:** Transition strategies should move interventions from external or special funding to integrated budget support as programs prove effective and scale, ensuring long-term sustainability beyond donor project cycles, with RA 11206 alignments for zero-cost universality. Advocacy for adequate education financing should emphasize the economic returns and social benefits of OOSC reduction, building political support for necessary resource commitments, e.g., Negros LGU calls for national ALS funding. Integration of OOSC interventions into broader education sector planning and budgeting should ensure that reducing educational exclusion is resourced as a core system function rather than a peripheral activity, via LSBs channeling 20% SEF to quick wins like Cagayan de Oro Bayanihan screens. Development of results-based financing mechanisms might incentivize effective OOSC reduction by regional and local governments, creating performance motivation and accountability for outcomes, tied to fieldwork benchmarks like 40% truancy drops for 30% funding escalations.

## 7. Conclusion

This study reveals a complex, evolving landscape for out-of-school children (OOSC) in the Philippines, blending remarkable progress with persistent challenges and emerging post-pandemic barriers that demand nuanced, evidence-based policy responses. Historical data, econometric analysis of PSA survey microdata (e.g., APIS, LFS), and new primary collections—including FGDs and KIIs with DepEd staff, school heads, teachers, parents, and learners from Quezon City, Laguna, Negros Occidental, and Cagayan de Oro—affirm the education system's resilience, with OOSC rates recovering below pre-pandemic levels (4.9% or 1.16 million in 2023) through modular adaptations and 4Ps expansions. Yet, fieldwork uncovers "other reasons" driving 20-30% of non-attendance by 2022—up from 2-11%—such as peer/digital truancy (35% SARDO in Negros/Cagayan de Oro via gaming "puyat" and barkada rides), documentation delays (25% in Quezon City/Laguna stalling kindergarten entry), and anxiety/health shocks (20% in Quezon City from bullying/family grief)—factors explaining 10-15% of logistic model residuals and inflating at-risk estimates by 0.5-1.0 pp to 5.4-5.9%. These intersect with core predictors like work (35 pp effect for SHS) and marriage (67 pp), signaling that traditional poverty-focused interventions must evolve toward holistic, life-course strategies.

Distinct challenges at the spectrum extremes—kindergarten "too young" perceptions delaying 79% of 5-year-olds (boys 79%, girls 77%) and SHS transition pressures for 16-17-year-olds—highlight foundational quality's role in preventing cascades, with Laguna's 1:1 reading interventions reducing absences by 20% via psychosocial "release valves." Gender nuances further complicate this: females' lower overall risk (-5 to -10 pp) masks 20-30% SHS pregnancy exits in Cagayan de Oro/Negros (often online-linked, with ALS/OHSP returns delayed by stigma), while boys dominate 60% chronic SARDO in Laguna via peer/work pulls (e.g., sugarcane skips). Regional disparities persist—BARMM's entrenched highs versus northern lows—yet success models like Cagayan de Oro's inter-agency subcommittees (8+ health/education panels) and Negros' ALS uplands offer replicable blueprints, with fieldwork urging bottom-up tailoring via LSBs/SEF.

The surge in unclassified barriers underscores a paradigm shift: as access improves, individualized factors like ALS persistence gaps (70-90% attrition in Laguna CLCs due to modular confusion) and ecosystem vulnerabilities (25% rain absences in Laguna) emerge, necessitating integrated services linking education to health (e.g., Cagayan de Oro Bayanihan screens), social protection (4Ps-ALS extensions cutting 30% leakage), and economic development (TESDA bridges subsidizing ₱1,200 NC II fees in Quezon City/Negros). This demands sophisticated diagnostics—e.g., Laguna's MIS fields for "peer pull"—and adaptive responses beyond categorical fixes.

The seven-pillar framework—School Age Entry Advocacy (with PSA desks); Child Find (monthly triages); Modern Engaging Pedagogy (HTHT/scaffolding); Addressing Gender Gaps (nuanced supports); Economic Rebalancing (leakage fixes); Enhanced Accelerated Education (ALS-TVET); and Supportive Ecosystems (transport/mental health buffers)—proposed in this study provides this integrated roadmap for addressing OOSC, preventing exclusion, sustaining at-risk youth, and recapturing dropouts via flexible, relevant pathways. Grounded in mixed-methods evidence—quantitative trends triangulated with fieldwork voices (e.g., Quezon City parents on docs; Cagayan de Oro teachers on digital habits)—it prioritizes quick wins for 20-30% short-term SARDO drops, scaling to 40-50% medium-term gains, and institutionalizing for 50-70% OOSC reductions by 2030.

Achieving "no child left behind" requires cross-sectoral resolve: DepEd anchoring BEDP recalibration, DSWD fortifying 4Ps conditionalities, LGUs channeling SEF for ecosystems, and partners like TESDA/Ayala accelerating HTHT/AE. Sustained political will, ₱500-1,000/beneficiary financing, capacity building (e.g., LACs for 80% teacher upskilling), and adaptive M&E (APIS-linked cohorts) are non-negotiable, with fieldwork underscoring community ownership (e.g., Negros *barkada* clubs) for cultural shifts.

Ultimately, OOSC resolution transcends metrics to forge an inclusive system empowering every child—urban/rural, boy/girl, young/returning—for socioeconomic mobility. The Philippines' pandemic rebound and regional triumphs fuel optimism: with evidence-driven adaptation, universal access can evolve into equitable, transformative education, turning vulnerabilities into shared prosperity. Future work should longitudinally track pillar impacts in high-burden areas like BARMM, refining for enduring equity.

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## ANNEX: STATISTICAL APPENDIX

**Annex Table 1. Determinants of School Non-Participation Among Kindergarten and Elementary-Aged Children (Ages 5-11): 2016, 2017, 2019, 2020, and 2022**

Variable	dy/dx				
	2016	2017	2019	2020	2022
Age	- 0.126***	- 0.089***	- 0.076***	- 0.241***	- 0.177***
Age Squared	0.007***	0.005***	0.004***	0.014***	0.010***
Female	-0.006*	-0.014**	-0.006*	-0.009**	-0.005
Household Size	0.009***	0.007***	0.004***	0.000	0.004*
Child Rank	-0.007	-0.007*	0.001	-0.001	-0.004
Household Head Age	-0.000	-0.000	0.000	0.001*	-0.000
Household Head Male	-0.021	0.008	-0.009	-0.005	-0.002
Mother Present	-0.009	-0.025*	0.081	- 0.190***	-0.050
Maternal Elementary Education	0.027*	0.053***	-0.074	0.202***	0.057
Maternal High School Education	-0.006	0.017*	-0.090	0.192***	0.047
Maternal Post-Secondary Education	-0.012	0.021*	-0.094	0.189***	0.041
Number of Retired	-0.035**	-0.023*	-0.008	N/A	N/A
Strong House	- 0.018***	- 0.034***	-0.005	-0.007	- 0.012***
Single Detached House	0.002	0.002	-0.014	0.011	-0.008
Own House	-0.011	-0.009	-0.002	-0.020**	0.001
Has Electricity	-0.017*	- 0.051***	- 0.045***	N/A	N/A
Under 30	0.012	0.007	0.002	0.022***	-0.003
Urban Residence	N/A	N/A	0.005	0.016**	0.000
4Ps Beneficiary	- 0.019***	-0.013**	-0.008	- 0.020***	-0.001
Region 1 (Reference)	-	-	-	-	-
Region 2	0.011	0.042*	0.014	0.078***	0.005
Region 3	0.015	0.000	0.012	0.027**	0.012
Region 4A	-0.005	0.010	0.012	0.054***	0.012
Region 4B	0.010	0.016	-0.002	0.048***	0.005
Region 5	0.009	-0.036**	-0.004	0.048***	0.005
Region 6	0.006	0.005	0.001	0.019*	0.064***
Region 7	0.002	-0.012	0.013	0.025**	0.003
Region 8	0.007	-0.016	0.008	0.005	0.007
Region 9	0.012	-0.005	0.012	0.048***	0.110***
Region 10	-0.005	-0.008	0.005	0.024**	0.033***
Region 11	0.010	-0.024*	0.003	0.024**	0.020*
Region 12	0.015	-0.004	0.011	0.024**	0.012
NCR	-0.005	0.003	-0.004	0.091***	-0.004
CAR	0.002	0.013	0.007	0.007	0.000
Region 13 (CARAGA)	0.005	0.016	0.008	0.040***	0.038***

Variable	dy/dx				
	2016	2017	2019	2020	2022
BARMM	0.101***	0.039**	0.111***	0.138***	0.097***
Region 17	0.009	0.004	0.007	0.019**	0.007
Constant	0.598***	0.443***	0.359***	0.998***	0.780***
Number of Observations	5,625	5,295	19,658	19,593	18,028
Pseudo R-squared	0.097	0.086	0.065	0.097	0.089

Notes: Dependent variable is binary (1 = out of school, 0 = attending school); \*\*\* p<0.01, \*\* p<0.05, \* p<0.10. dy/dx represents average marginal effects. N/A indicates variable not available or not statistically significant. Reference Category: Region 1 (Ilocos Region)

Source: Authors' calculations based on APIS 2019, 2020, and 2022 microdata, Philippine Statistics Authority

**Annex Table 2. Determinants of School Non-Participation Among High School-Aged Children (Ages 12-17): 2016, 2017, 2019, 2020, and 2022**

Variable	dy/dx				
	2016	2017	2019	2020	2022
Age	0.034***	0.023***	0.014***	0.014***	0.009***
Female	-0.010**	-0.049***	-0.031***	-0.042***	-0.032***
Worker	0.333***	0.289***	0.185***	0.079***	N/A
Married	0.557***	0.622***	0.413***	0.283***	0.284***
Household Size	0.009**	0.004	0.001	-0.001	-0.001
Child Rank	0.011	0.011**	0.011***	0.007**	0.007**
Household Head Age	-0.001	-0.000	0.001**	0.001*	0.001*
Household Head Male	0.004	0.008	0.009	0.016	0.008
Mother Present	-0.039	-0.038	0.125***	0.111	0.111
Maternal Elementary Education	0.010	0.038	-0.112***	0.208***	-0.103
Maternal High School Education	-0.034**	-0.024	-0.156***	0.168***	-0.142
Maternal Post-Secondary Education	-0.030	-0.030	-0.176***	0.152***	-0.149
Number of Retired	-0.026	-0.026	0.002	N/A	N/A
Strong House	-0.039***	-0.015***	-0.022***	-0.015***	-0.017***
Single Detached House	0.016	0.005	-0.008	-0.002	-0.002
Own House	-0.012	-0.012	-0.007	0.001	0.001
Has Electricity	-0.064***	-0.093***	-0.063***	N/A	N/A
Under 30	0.067***	0.050***	0.012**	0.005	0.005
Urban Residence	N/A	N/A	0.001	0.014**	0.009
4Ps Beneficiary	-0.100***	-0.086***	-0.030***	-0.034***	-0.011**
Region 1 (Reference)	-	-	-	-	-
Region 2	0.059	0.007	-0.018	0.071**	0.007
Region 3	0.025	0.025	0.011	0.036*	0.014
Region 4A	-0.001	0.019	-0.001	0.039*	0.010
Region 4B	0.000	0.077**	0.004	0.040*	-0.005
Region 5	0.007	-0.036	-0.033**	0.040*	-0.005
Region 6	-0.021	-0.021	-0.015	0.025*	0.025*
Region 7	-0.009	0.037	-0.007	0.035*	-0.007
Region 8	-0.031	-0.016	-0.016	0.020	0.002
Region 9	0.073**	0.027	0.031	0.031	0.061***

Variable	dy/dx				
	2016	2017	2019	2020	2022
Region 10	0.046	-0.041	-0.064***	-0.004	-0.004
Region 11	0.060	0.038	0.030	0.020*	0.020*
Region 12	0.020	-0.004	0.017	0.017	0.012
NCR	-0.017*	-0.014	-0.018*	0.099***	-0.002
CAR	-0.004	-0.014	-0.003	0.007	-0.003
Region 13 (CARAGA)	0.084***	0.023	0.007	0.035*	0.001
BARMM	0.101***	0.140***	0.060**	0.094***	0.069***
Region 17	-0.001	-0.010	-0.003	-0.003	0.003
Constant	-0.340***	-0.226***	-0.199***	-0.199***	-0.106***
Observations	4,830	4,741	18,811	19,031	17,910
R-squared	0.276	0.227	0.138	0.077	0.049

Notes: Dependent variable is binary (1 = out of school, 0 = attending school; \*\*\* p<0.01, \*\* p<0.05, \* p<0.10. dy/dx represents average marginal effects. N/A indicates variable not available or not statistically significant. Reference Category: Region 1 (Ilocos Region)

Source: Authors' calculations based on APIS 2019, 2020, and 2022 microdata, Philippine Statistics Authority

## TECHNICAL NOTES FOR Annex Tables A-1 and A-2

**Model Specification:** Logistic regression models estimate the probability of school non-participation based on individual, household, and geographic characteristics. Average marginal effects (dy/dx) represent the change in probability associated with a one-unit change in each explanatory variable.

**Data Limitations:** The analysis incorporates data from 2016, 2017, 2019, 2020, and 2022, allowing for a nuanced understanding of temporal variations in educational participation. Some years had limitations in variable availability, particularly concerning employment and urban/rural classifications.

**Sample Restrictions:** Samples include children in specified age ranges with complete information on key variables. Children with missing data on critical variables were excluded from the analysis.

**Standard Errors:** All standard errors are robust and clustered at the household level to account for potential correlation in outcomes among children within the same household.

**Sample Restrictions:** Samples include all children in the specified age ranges (5-11 years for Table A1, 12-17 years for Table A2) with complete information on all variables included in the models. Children with missing data on key variables were excluded from the analysis.

**Omitted Variables:** Some variables show "(omitted)" in certain years due to collinearity with other variables or lack of variation in the sample for that particular year. In such cases, the variable was dropped from the model specification for that year.

**Annex Table 3. GER, ANER and Overage Students**

	Girls	Boys	Total
<b>School-age population</b>			
Pre-primary	2,976,806	3,112,504	6,089,310
Primary	7,052,912	7,517,768	14,570,680
Lower Secondary	5,014,790	5,276,911	10,291,701
Upper Secondary	2,079,411	2,243,136	4,322,547
<b>In School population</b>			
Pre-primary	852,653	892,519	1,745,172
Primary	7,512,660	8,121,004	15,633,663
Lower Secondary	4,647,264	4,703,369	9,350,633
Upper Secondary	2,118,244	1,403,328	3,521,572
<b>Gross enrollment rate</b>			
Pre-primary	28.6%	28.7%	28.7%
Primary	106.5%	108.0%	107.3%
Lower Secondary	92.7%	89.1%	90.9%
Upper Secondary	101.9%	62.6%	81.5%
<b>Adjusted Net enrollment rate</b>			
Pre-primary	85.0%	83.4%	84.2%
Primary	96.6%	95.6%	96.0%
Lower Secondary	97.0%	93.8%	95.4%
Upper Secondary	89.7%	58.6%	73.6%
<i>Compulsory education</i>	<i>96.7%</i>	<i>95.5%</i>	<i>96.1%</i>
<b>Overage students</b>			
<b>Total</b>			
Number			
Primary	2,803,587	3,316,231	6,119,817
Lower Secondary	1,669,451	2,007,771	3,677,222
Upper Secondary	938,730	710,524	1,649,254
Proportion			
Primary	37.3%	40.8%	39.1%
Lower Secondary	35.9%	42.7%	39.3%
Upper Secondary	44.3%	50.6%	46.8%
<b>More than one year</b>			
Number			
Primary	487,594	784,643	1,272,236
Lower Secondary	399,003	612,571	1,011,574
Upper Secondary	284,343	323,516	607,859
Proportion			
Primary	6.5%	9.7%	8.1%
Lower Secondary	8.6%	13.0%	10.8%
Upper Secondary	13.4%	23.1%	17.3%
<b>More than two years</b>			
Number			
Primary	157,133	301,413	458,546
Lower Secondary	137,984	238,920	376,904
Upper Secondary	88,644	155,148	243,792

Proportion			
Primary	2.1%	3.7%	2.9%
Lower Secondary	3.0%	5.1%	4.0%
Upper Secondary	4.2%	11.1%	6.9%

*Source: Authors' calculations using UNICEF's Seven Dimensions of Exclusion (7DE) calculation tool, based on DepEd 2018–2024 enrollment and dropout microdata and PSA 2023 FIES–LFS microdata (Department of Education; Philippine Statistics Authority).*

**Annex Table 4. Summary of Results of Dimension 1, 2, 3, and 6**

	Girls		Boys		Total	
	Number	Rate	Number	Rate	Number	Rate
<b>Out of school children</b>						
D1: Children aged 5 years old	154,892	15.0%	179,218	16.6%	334,110	15.8%
D2: Children 6 to 11 years old (Primary)	242,385	3.4%	334,076	4.4%	576,461	4.0%
<i>D21: Children who have dropped out</i>	119,137	49.2%	164,521	49.2%	283,658	49.2%
<i>D22: Children who should enter later</i>	47,707	19.7%	65,375	19.6%	113,082	19.6%
<i>D23: Children who will never enter</i>	75,541	31.2%	104,180	31.2%	179,721	31.2%
D3: Children between 12 and 15 years old (Lower Secondary)	150,764	3.0%	325,508	6.2%	476,271	4.6%
<i>D31: Children who have dropped out</i>	137,175	91.0%	296,133	91.0%	433,309	91.0%
<i>D32: Children who should enter later</i>						
<i>D33: Children who will never enter</i>	13,588	9.0%	29,374	9.0%	42,963	9.0%
D6: Children between 16 and 17 years old (Upper Secondary)	214,214	10.3%	928,452	41.4%	1,142,666	26.4%
<i>D61: Children who have dropped out</i>	203,508	95.0%	882,003	95.0%	1,085,511	95.0%
<i>D62: Children who should enter later</i>						
<i>D63: Children who will never enter</i>	10,705	5.0%	46,449	5.0%	57,155	5.0%
<b>Total Out-Of-School Children (5 to 17 years old)</b>	<b>762,254</b>	<b>5.0%</b>	<b>1,767,254</b>	<b>11.0%</b>	<b>2,529,508</b>	<b>8.1%</b>

Source: Authors' calculations using UNICEF's Seven Dimensions of Exclusion (7DE) calculation tool, based on DepEd 2018–2024 enrollment and dropout microdata and PSA 2023 FIES–LFS microdata (Department of Education; Philippine Statistics Authority).

**Annex Table 5. Summary of Results of Dimension 4, 5, and 7**

	Girls		Boys		Total	
	Number	Rate	Number	Rate	Number	Rate
<b>Children at risk of dropping out of school</b>						
<b>D4 : Children in Primary</b>	<b>103,757</b>	<b>1.6%</b>	<b>245,517</b>	<b>3.6%</b>	<b>349,274</b>	<b>2.7%</b>
D41-Risk of dropping-out during the cycle	84,715	1.6%	205,327	3.6%	290,042	2.7%
D42-Risk of dropping-out during the transition to the next cycle	19,042	1.8%	40,190	3.6%	59,232	2.7%
<b>D5: Children in Lower Secondary</b>	<b>151,517</b>	<b>3.6%</b>	<b>278,635</b>	<b>6.6%</b>	<b>430,152</b>	<b>4.9%</b>
D51-Risk of dropping-out during the cycle	82,398	2.7%	225,298	7.3%	307,696	4.7%
D52-Risk of dropping-out during the transition to the next cycle	69,119	6.0%	53,337	4.8%	122,456	5.4%
<b>D7: Children in Upper Secondary</b>	<b>78,330</b>	<b>7.2%</b>	<b>79,109</b>	<b>7.5%</b>	<b>157,439</b>	<b>7.6%</b>
<b>Total children at risk of dropping out</b>	<b>333,604</b>	<b>2.3%</b>	<b>603,261</b>	<b>4.2%</b>	<b>936,865</b>	<b>3.3%</b>

*Source: Authors' calculations using UNICEF's Seven Dimensions of Exclusion (7DE) calculation tool, based on DepEd 2018–2024 enrollment and dropout microdata and PSA 2023 FIES–LFS microdata (Department of Education; Philippine Statistics Authority).*

**Annex Table 6. Characteristics of D2, D3 and D6 according to the household survey**

<b>Girls</b>	<b>Number</b>			<b>Rate</b>		
	<i>Primary</i>	<i>Lower Secondary</i>	<i>Upper Secondary</i>	<i>Primary</i>	<i>Lower Secondary</i>	<i>Upper Secondary</i>
<b>Out-Of-School Children classification</b>						
Children dropped out	72,864	631,272	752,373	49.2%	91.0%	95.0%
Children expected to enter by age 17	29,177			19.7%		
Children expected to never enter	46,200	62,533	39,578	31.2%	9.0%	5.0%
Total Out-of-school children	148,241	693,805	791,952	100.0%	100.0%	100.0%
<b>Total Population</b>						
In School	6,904,671	4,320,985	1,287,459	97.9%	86.2%	61.9%
Out-Of-School	148,241	693,805	791,952	2.1%	13.8%	38.1%
Total	7,052,912	5,014,790	2,079,411	100.0%	100.0%	100.0%

<b>Boys</b>	<b>Number</b>			<b>Rate</b>		
	<i>Primary</i>	<i>Lower Secondary</i>	<i>Upper Secondary</i>	<i>Primary</i>	<i>Lower Secondary</i>	<i>Upper Secondary</i>
<b>Out-Of-School Children classification</b>						
Children dropped out	77,832	663,174	810,963	49.2%	91.0%	95.0%
Children expected to enter by age 17	30,928			19.6%		
Children expected to never enter	49,286	65,782	42,708	31.2%	9.0%	5.0%
Total Out-of-school children	158,046	728,956	853,671	100.0%	100.0%	100.0%
<b>Total Population</b>						
In School	7,359,721	4,547,955	1,389,465	97.9%	86.2%	61.9%
Out-Of-School	158,046	728,956	853,671	2.1%	13.8%	38.1%
Total	7,517,768	5,276,911	2,243,136	100.0%	100.0%	100.0%

<b>Total</b>	<b>Number</b>			<b>Rate</b>		
	<i>Primary</i>	<i>Lower Secondary</i>	<i>Upper Secondary</i>	<i>Primary</i>	<i>Lower Secondary</i>	<i>Upper Secondary</i>
<b>Out-Of-School Children classification</b>						
Children dropped out	150,696	1,294,445	1,563,336	49.2%	91.0%	95.0%
Children expected to enter by age 17	60,105			19.6%		
Children expected to never enter	95,486	128,316	82,286	31.2%	9.0%	5.0%
Total Out-of-school children	306,288	1,422,761	1,645,623	100.0%	100.0%	100.0%
<b>Total Population</b>						
In School	14,264,392	8,868,940	2,676,924	97.9%	86.2%	61.9%
Out-Of-School	306,288	1,422,761	1,645,623	2.1%	13.8%	38.1%
Total	14,570,680	10,291,701	4,322,547	100.0%	100.0%	100.0%

Source: Authors' calculations using UNICEF's Seven Dimension of Exclusion (7DE) calculation tool, based on DepEd 2018-2024 enrollment and dropout microdata and PSA 023 FIES-LFS microdata (Department of Education; Philippine Statistical Authority).

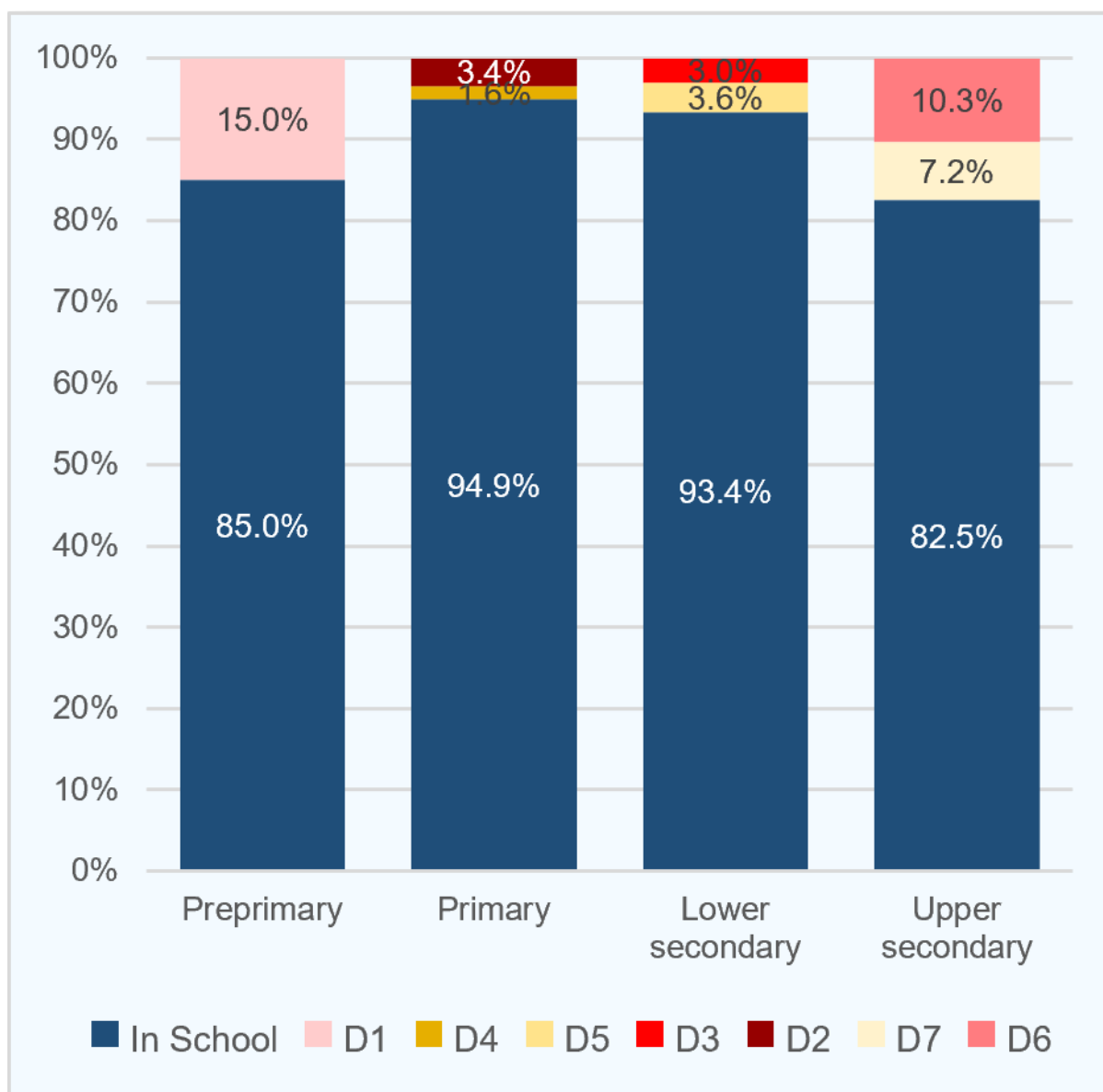
## TECHNICAL NOTES FOR Annex Tables A.3–A.6

Annex Table A.3 reports school-age population, in-school population, gross enrollment rate (GER), adjusted net enrollment rate (ANER), and age-for-grade status by level and sex. GER is total enrollment (regardless of age) over the official school-age population; ANER is the share of children of the official age group who are enrolled at the correct level. Overage learners are those enrolled above the official age-for-grade under the K to 12 structure, with separate counts for those overage by more than one year and by more than two years.

For Annex Table A.5, the number of enrollees used in computing risk-of-dropping-out indicators was adjusted to account for unusually high enrollment in 2020 relative to previous cohorts, likely linked to COVID-19 disruptions and mass promotion policies. To maintain comparability over time and avoid overstating risk, the authors averaged enrollment figures across adjacent years and applied these smoothed values as the denominator for the relevant indicators.

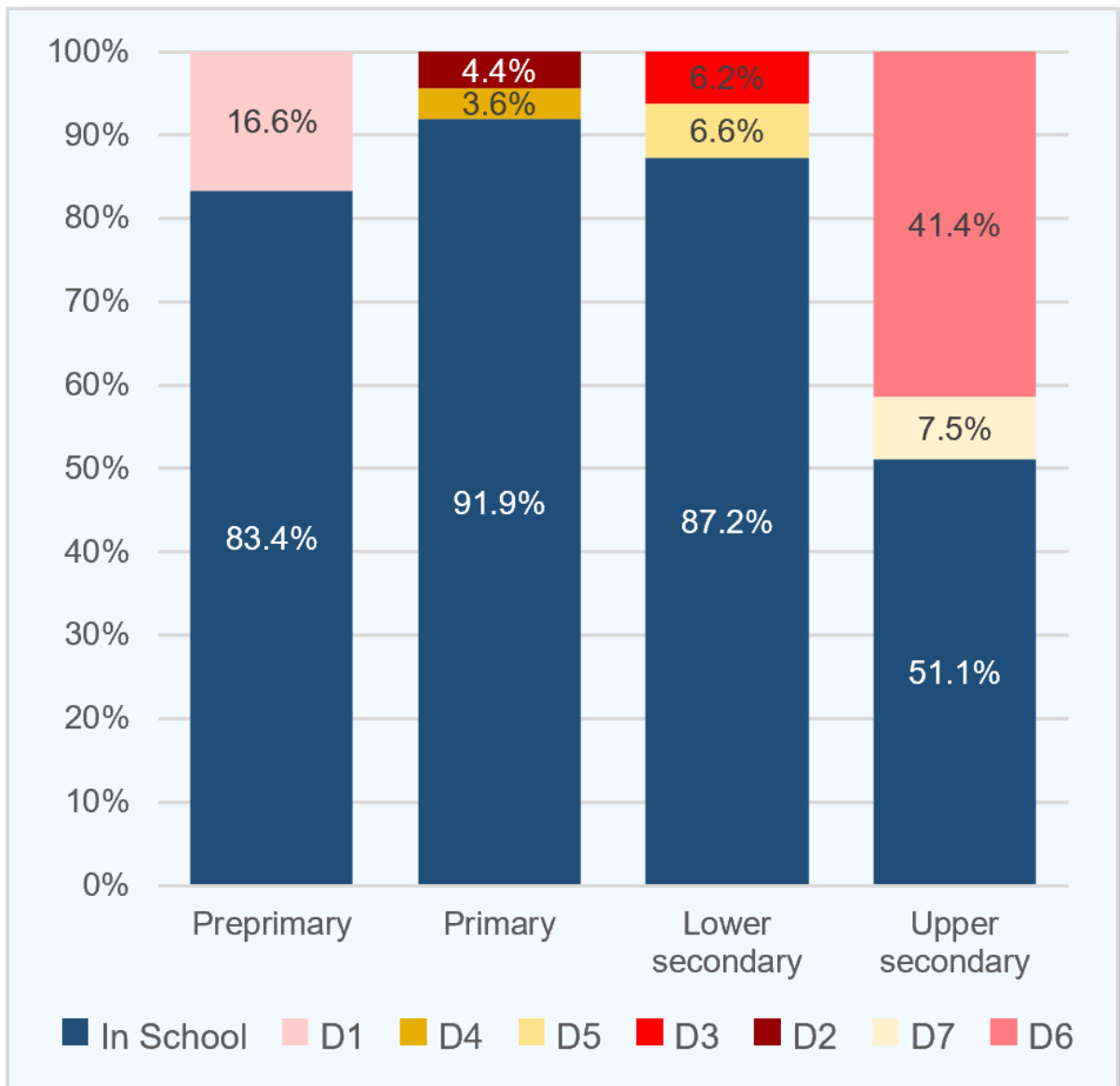
Annex Tables A.4–A.6 apply the OOSCI seven dimensions framework: D1–D3 and D6 classify out-of-school children by age group and level, while D4–D5 and D7 identify children in school but at risk of dropping out or failing to transition. Subcategories (for example, “dropped out,” “expected to enter later,” “expected to never enter”) are derived from current schooling status and household expectations in the survey. School-age population denominators come from PSA household survey microdata, while in-school counts align with DepEd BEIS enrollment; all rates are survey-weighted and minor discrepancies across tables reflect rounding and slight differences in coverage.

**Annex Figure 1. Summary of the 7Ds according to education level (Girls)**



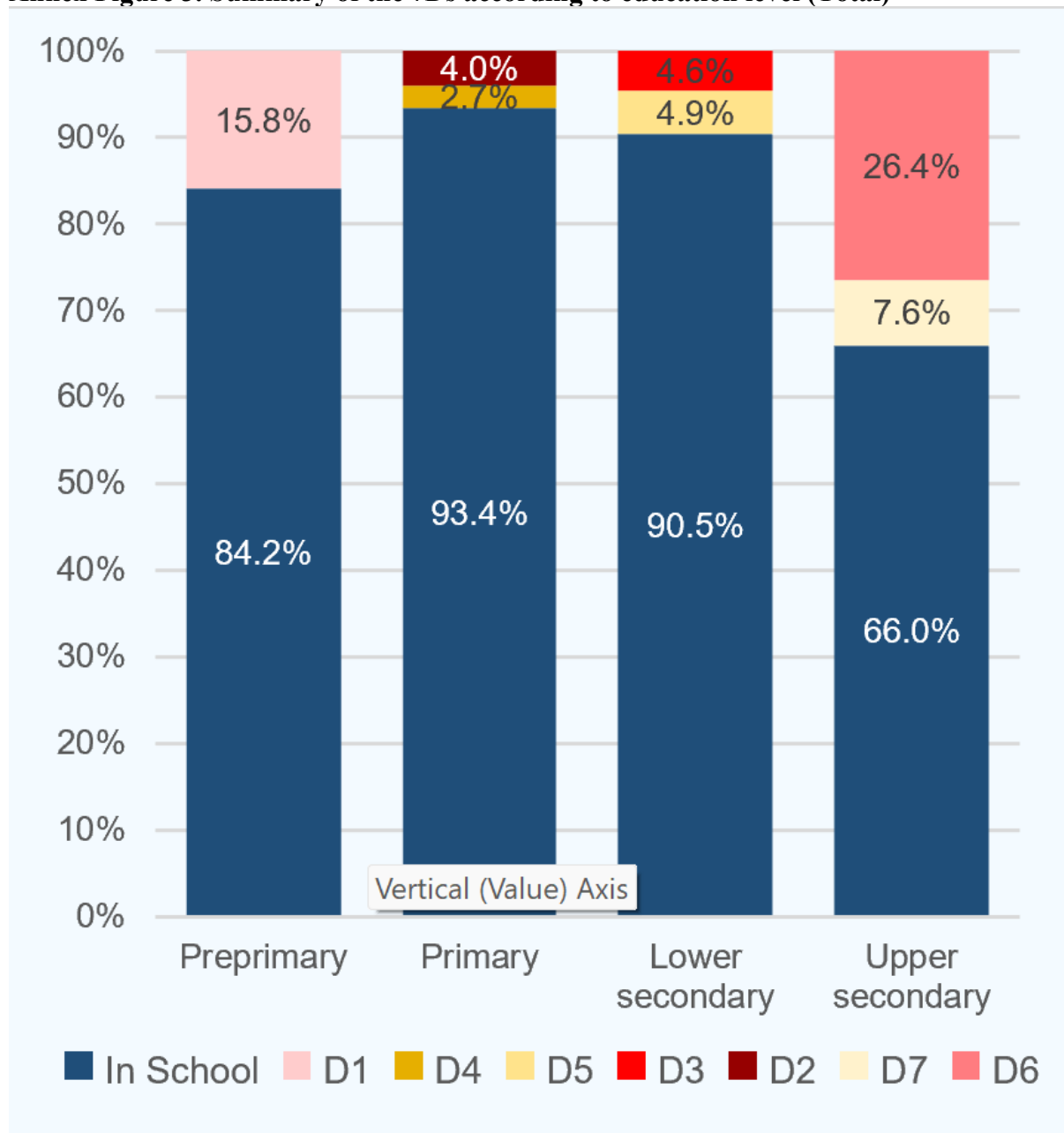
Source: Authors' calculations using UNICEF's Seven Dimension of Exclusion (7DE) calculation tool, based on DepEd 2018-2024 enrollment and dropout microdata and PSA 023 FIES-LFS microdata (Department of Education; Philippine Statistical Authority).

**Annex Figure 2. Summary of the 7Ds according to education level (Boys)**



Source: Authors' calculations using UNICEF's Seven Dimension of Exclusion (7DE) calculation tool, based on DepEd 2018-2024 enrollment and dropout microdata and PSA 023 FIES-LFS microdata (Department of Education; Philippine Statistical Authority).

**Annex Figure 3. Summary of the 7Ds according to education level (Total)**



Source: Authors' calculations using UNICEF's Seven Dimension of Exclusion (7DE) calculation tool, based on DepEd 2018-2024 enrollment and dropout microdata and PSA 023 FIES-LFS microdata (Department of Education; Philippine Statistical Authority).