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Thrive by Five Index 2024:
National Findings

September 2025

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About the Thrive by Five Index

The *Thrive by Five Index*, first launched in 2021 [1] [2], is the largest survey of preschool child outcomes in South Africa. It was established as a collaborative effort to track progress and promote positive change in Early Childhood Development.

The *Thrive by Five Index 2024* is the second in a planned series of cross-sectional, nationally and provincially representative studies conducted every three years. The 2024 survey was led by the Department of Basic Education and coordinated by DataDrive2030, with support from the FirstRand Foundation, the LEGO Foundation, This Day Foundation, and Yellowwoods.

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Navigating this report

This report presents the national findings from the *Thrive by Five Index 2024* and is organised into four sections, each of which can be read independently or as part of the full narrative:

- **Section One** introduces the objectives, scope, and design of the *Thrive by Five Index 2024.*
- **Section Two** provides an overview of the children, households, and Early Learning Programmes (ELPs) included in the main study and addresses the core research questions related to children enrolled in ELPs.
- **Section Three** presents findings from the sub-study of non-enrolled children.
- **Section Four** concludes with a set of recommendations aimed at improving developmental outcomes for young children across South Africa.

Throughout, we have aimed to balance technical rigour with accessibility, ensuring that analyses are methodologically sound, while remaining clear, engaging, and meaningful to an audience with varying levels of data literacy.

Acknowledgements

The *Thrive by Five Index* is a testament to the power of collaboration. This report, and the broader effort it represents, would not have been possible without the dedication, expertise, and generosity of many individuals and organisations.

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Project Oversight - We acknowledge the leadership of the national Department of Basic Education (DBE), under whose guidance the *Thrive by Five Index* is implemented, and the strategic oversight provided by the *2024 Index's* Steering and Communications Committees.

Project Management - The *Thrive by Five Index* is coordinated by DataDrive2030, a non-profit organisation committed to unlocking the power of data to improve outcomes for young children. We would especially like to recognise the extraordinary dedication of every member of the DataDrive2030 team, who demonstrated, time and again, that this work is so much more than a job.

Technical Contributors - This study was designed, implemented and quality assured with expert input from a multidisciplinary team with deep technical expertise in ECD, survey design, assessor training, fieldwork management, data processing, analysis, and evidence communication. Their collective knowledge ensured that the *Thrive by Five Index* measures what truly matters and that the findings are technically robust and policy relevant.

Field Work Teams - We extend our heartfelt thanks to the listing teams, the fieldwork managers, regional coordinators, call centre operators, assessors and auditors whose tireless efforts made this study possible. Working under extremely challenging conditions, often in remote and resource-constrained settings, they demonstrated professionalism, patience, and perseverance.

Early Learning Programmes (ELPs) - We are deeply grateful to the many ELP principals and practitioners who participated in the 2024 round of the *Thrive by Five Index.* They form the foundation of South Africa's early learning landscape.

Primary Caregivers - We also wish to recognise the primary caregivers who allowed us into their homes, and trusted us with their children and their information, enabling us to understand the contextual realities of their lives more deeply.

Finally, we extend our deepest thanks to the **thousands of 4-year-old children** who took part in assessments across the country. Their curiosity, energy, and willingness to engage are what gave life and meaning to this study, and their contributions are invaluable.

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Contributors
We gratefully acknowledge the following individuals for their contributions to this study. Names are listed alphabetically by organisation and surname.

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As a team, we recognise the profound responsibility that comes with collecting and interpreting data about children's lives. We are deeply committed to ensuring that the Thrive by Five Index is fully leveraged to accelerate progress for young children across South Africa.

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Acronyms

A glossary defining all key terms, tools, and concepts is included in the Appendix.

Acronym	Full Term
2021 Index	Thrive by Five Index 2021
2024 Index	Thrive by Five Index 2024
BLSA	Business Leadership South Africa
CEF	Cognition and Executive Functioning
COVID-19	Coronavirus Disease 2019
CSG	Child Support Grant
DBE	Department of Basic Education
ECD Census	Early Childhood Development Census
DCHS	Drakenstein Child Health Study
DHS	Demographic and Health Survey
DSD	Department of Social Development
DoH	Department of Health
ECD	Early Childhood Development
ELDA	Early Learning Development Area
ELL	Emergent Literacy and Language
ELOM	Early Learning Outcomes Measure
ELP	Early Learning Programme
ENM	Emergent Numeracy and Mathematics
FMC	Fine Motor Coordination (used within FMC-VMI)
FMC-VMI	Fine Motor Coordination and Visual Motor Integration
GHS	General Household Survey
GMD	Gross Motor Development
HAD	Height-for-Age Difference
HAZ	Height-for-Age Z-Score
HLE	Home Learning Environment
IMCI	Integrated Management of Childhood Illnesses
LMIC	Low- and Middle-Income Countries
LOLT	Language of Learning and Teaching
LPQA	Learning Programme Quality Assessment Tool
NCF	National Curriculum Framework
NDP	National Development Plan
NGO	Non-Governmental Organisation

Acronyms

Acronym	Full Term
NIDS	National Income Dynamics Study
NQF	National Qualifications Framework
PCG	Primary Caregiver
PD	Positive Deviance
Q1–Q5	Q1 = Quintile 1, etc
RTHB	Road to Health Booklet
SA	South Africa
SAL	Small Area Layers
SALDRU	South African Labour and Development Research Unit
SD	Standard Deviation
SDG	Sustainable Development Goals
SEF	Social and Emotional Functioning / Social-Emotional Functioning
SEF Rating Scale	Social-Emotional Functioning Rating Scale
SEM	Structural Equation Modelling
SES	Socio-Economic Status
Stats SA	Statistics South Africa
UCT	University of Cape Town
UNICEF	United Nations Children's Fund
VMI	Visual Motor Integration (used within FMC-VMI)
WHO	World Health Organization

Executive Summary

Background

The *Thrive by Five Index 2024* represents South Africa's most comprehensive effort to date to assess the developmental status of 4-year-old children across the country. Grounded in the Nurturing Care Framework for Early Childhood Development [3], the *2024 Index* offers a detailed, nationally representative snapshot of how children are faring in the critical domains of early learning, physical growth, and social-emotional development. This second round of the *Thrive by Five Index* builds on the inaugural *2021 Index*, expanding the scope and methodological rigour. It also introduces a sub-study of non-enrolled children - to shed light on the realities of children not attending Early Learning Programmes (ELPs).

Objectives

The *Thrive by Five Index* 2024 set out to:

1. **Determine** the proportion of young children in SA who attend ELPs who are On Track for their age in three key areas of development: early learning, social-emotional functioning, and physical growth.
2. **Monitor** trends in performance gaps and gains over time and across socio-economic groups.
3. **Explore** a range of potential predictors of key child outcomes.
4. **Track** progress towards local and global development goals.
5. **Inform** decision-making and actions to improve developmental outcomes for young children.
6. **Examine** the developmental risks facing non-enrolled children through the small sub-study.

How the Study was Designed and Conducted

Using a stratified, multistage sampling strategy, a nationally and provincially representative sample of **5,001 children enrolled in 1,388 ELPs** across all nine provinces was achieved for the *2024 Index*. This included a large-scale listing exercise in the **432 wards** selected for the study, to identify eligible ELPs and establish a comprehensive, up-to-date sampling frame from which the ELPs were selected. Within each sample ELP, children aged 50-59 months, half boys and half girls, were randomly sampled to participate.

To better understand the developmental status of children not attending an ELP, the *2024 Index* included a sub-study of **non-enrolled children.** A sample of **272 children** was purposively selected from low-income areas in three provinces. Although this sample is not provincially nor nationally representative, it offers important insights into a highly vulnerable population of young children.

Standardised survey tools were used to collect data, to maximise accuracy and comparability across the diverse settings.

- The ELOM 4&5 Years Assessment Tool (ELOM 4&5), administered in the children's home languages, assessed five developmental domains.
- Social-Emotional Functioning (SEF) was assessed through practitioner ratings of observable behaviours for enrolled children, and primary caregivers' (PCGs) ratings for non-enrolled children.
- Heights for all sample children were measured using mobile stadiometers.
- The Learning Programme Quality Assessment Version 2 Tool (LPQA v2) was used to observe learning resources and programme quality.
- Interviews with principals and practitioners and facility observations provided rich contextual data on early learning environments.
- Interviews were completed with 77% (3,841) of the assessed enrolled children's primary caregivers and with all 272 PCGs of non-enrolled children. Across both groups, the vast majority of PCGs were biological mothers.

Enumerators underwent rigorous training and had to meet strict standards before being deployed to the field. Quality assurance included real-time monitoring of incoming data, in-field supervision, field spot checks, daily data validation, and extensive post-fieldwork data checking and cleaning.

Key Findings

Only 42% of enrolled children are developmentally On Track in Early Learning (as measured by the ELOM 4&5), with notable differences by gender and socio-economic circumstances. Girls outperform boys across all learning domains (except Gross Motor Development), and children in Higher Fee ELPs significantly outperform those in Lower Fee ELPs.

Across the domains, the strongest performance was in Emergent Literacy and Language (53% of children were On Track), followed by Gross Motor Development (44%), Cognition and Executive Functioning (40%), Emergent Numeracy and Mathematics (33%), and Fine Motor Coordination and Visual Motor Integration (29%).

Approximately **7% of enrolled children show signs of moderate or severe stunting.** Overall, **56% of children Meet the Standard for Emotional Readiness, while 63% Meet the Standard for Social Relations with Peers and Adults.** Girls are more likely than boys to Meet the Standard in both areas.

42%
of enrolled children are On Track for early learning

7%
of enrolled children are moderately or severely stunted

56%
of children Meet the Standard for Emotional Readiness

Statistical modelling found that **Task Orientation** - children's ability to concentrate, persist, and show interest (observed and rated during the child assessments) - was the strongest predictor of learning outcomes, followed by their emotional functioning and socio-economic circumstances. Growth status (children's height-for-age) was also significantly associated with learning outcomes, but with a modest effect size.

The sub-study highlighted **severe developmental deficits among non-enrolled children**, with a massive **82% of non-enrolled children Falling Behind or Far Behind on early learning.** Rates of stunting were exceptionally high - **18% of the non-enrolled children showed signs of moderate to severe stunting**. The deprivation observed within the non-enrolled sample points to profound levels of vulnerability. Although this sample is not representative of non-enrolled children nationally, it underscores the importance of gaining a deeper understanding of this population to meet their needs more effectively.

82%
of the non-enrolled children are unable to do basic tasks expected of a child their age

18%
of the non-enrolled children are stunted

Comparison of Learning Outcomes: 2021 vs 2024

Findings across the 2021 and 2024 rounds of the *Thrive by Five Index* show consistent patterns in many respects:

- The lowest proportions of On Track children are observed in FMC-VMI and ENM, and the highest in ELL.
- Girls outperform boys across all domains of the ELOM 4&5 assessment, except Gross Motor Development.
- Children attending Higher Fee ELPs perform significantly better than those in Lower Fee ELPs (where ELP Fees are used as a proxy for children's socio-economic circumstances).
- Stunting and Social-Emotional Functioning are strongly associated with learning outcomes in children.

Determining whether outcomes have changed significantly between the two rounds is complicated by the disruption of COVID-19 in 2021. Preliminary findings suggest no significant difference in ELOM 4&5 domain scores over time, and a slight decline in overall early learning outcomes between 2021 and 2024. However, we strongly recommend presenting 2024 as the baseline for future comparisons because of COVID-19.

Recommendations

While the *Thrive by Five Index 2024* shows that many young children are developing well, it also finds that the majority is falling behind and highlights deep and persistent inequalities - particularly for children in Lower Fee ELPs and those not in ELPs. The *Index* highlights six priority areas for action to improve young children's development:

1. **Finance the sector for access and quality:** Fix blockages and inefficiencies in the administration of the ECD subsidy; increase funding for NGO support; and remove financial barriers to enrolment for the most vulnerable children.

2. **Strengthen the workforce and classroom practices:** Review practitioner training to emphasise responsive, evidence-based teaching strategies; build capacity to support children's social-emotional development; design classrooms that foster focus and self-regulation; equip under-resourced ELPs with quality materials; expand peer learning networks; and invest in principals as pedagogical and managerial leaders.

3. **Integrate early learning and child health:** Tackle root causes of stunting through multisectoral action and expand nutrition and health services (meals, growth checks, supplementation) delivered via ELP–health partnerships.

4. **Support positive parenting:** Boost caregiver knowledge of development milestones and low-cost home learning practices; expand access to books and develop programmes that actively involve male caregivers.

5. **Strengthen foundation phase teaching:** Ensure Grade R serves as a bridging year for children who start school behind. Improve instructional quality from Grade R to Grade 3 to prevent fade-out of early learning gains.

6. **Advance data and research:** Deepen understanding of non-enrolled children; invest in longitudinal studies to track developmental pathways; and embed *Thrive by Five* outcomes in national education data systems.

Moving from Data to Action

The *Thrive by Five Index 2024* reveals both the urgency and the opportunity within South Africa's ECD landscape. Many children continue to experience developmental delays, but there is increasing evidence that targeted action on known, modifiable factors can reduce inequality and unlock developmental improvements. Achieving the level of change needed to ensure all children - regardless of their socio-economic circumstances or location - have the opportunity to realise their full potential demands collective commitment and coordinated effort. The data offers clear and practical guidance, but it is ***our subsequent actions*** that will determine whether South Africa's youngest children genuinely thrive.

Section 1

Introduction and Technical Features

This section introduces the purpose, scope, and design of the *Thrive by Five Index 2024.*

Here is what it covers:

- **Purpose:** What are the objectives of this study, and what key research questions does it seek to answer?
- **Components:** What are the main components of the study, including both a nationally representative sample of children in Early Learning Programmes (ELPs) and a smaller sub-study of non-enrolled children?
- **Method:** What ethical safeguards, sampling strategies, and survey tools were used to collect the data?
- **Sample sizes and data preparation:** What were the planned and realised sample sizes for children, caregivers, and ELPs, and how was the data prepared for analysis?
- **Disaggregators:** How and why is the data disaggregated, including by gender and ELP fee levels?

01 Introduction

1.1. Objectives of the Index

The first five years of life are widely recognised as a critical period in shaping a child's development. During this time, children's brains and bodies grow at an extraordinary pace and are especially sensitive to their environment. Children who are nourished and nurtured in supportive environments - at home and in other care or educational settings - are more likely to be healthy, emotionally secure, and developmentally on track, increasing their chances of thriving and reaching their full potential.

Yet despite the well-established importance of this early stage of life, South Africa has long lacked reliable national data on whether young children are receiving the care, support, and stimulation they need to thrive.

Against this backdrop, the *Thrive by Five Index* was launched in 2021 as a collaborative effort to track and promote Early Childhood Development (ECD) outcomes at a national level. The *Index* is designed to provide a clear, regular picture of how young children in South Africa are developing in key domains, and how the early learning environment, household conditions and broader social context contribute to this development.

The *2024 Index* is the second in a series of cross-sectional, nationally and provincially representative studies to be undertaken every 3 years. It is the largest ever survey of preschool child outcomes in South Africa.

The Thrive by Five Index 2024 set out to:

1. **Determine** the proportion of young children in SA who attend ELPs who are On Track for their age in three key areas of development: early learning, social-emotional functioning, and physical growth.
2. **Monitor** trends in performance gaps and gains over time and across socio-economic groups.
3. **Explore** a range of potential predictors of key child outcomes.
4. **Track** progress towards local and global development goals.
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6. **Examine** the developmental risks facing non-enrolled children through the small sub-study.

1.2. Context: South Africa's Early Learning Landscape

Child Poverty and ELP Participation

There are approximately 1.2 million 4-year-old children in South Africa [4]. A staggering 68% of these children live in households that fall below the upper bound poverty line (an income of less than R1,634 per person per month in 2024 terms), and 37% live below the food poverty line (R796) [5] [6]. Socio-economic vulnerability is especially concerning during the first five years of a child's life, given the critical developmental importance of this period. Deprivation in these early years can have lasting negative effects on a child's cognitive, emotional, and physical development.

At the time of this study, an estimated 60% of 4-year-olds in South Africa were enrolled in an Early Learning Programme (ELP) [6], including preschools, educare centres, crèches, and playgroups - the population from which the *2024 Index enrolled* sample was drawn. An additional ± 2% of 4-year-olds were cared for by day mothers, gogos (grandmothers) or child minders - largely informal care arrangements which would not have been identified as part of the *Index* ELP listing process. Furthermore, approximately 9% of 4-year-olds, enrolled early in Grade R or Grade 1 classes in public or private schools, were also excluded from the sample. These children are younger than the recommended age for school entry; their early enrolment may reflect financial considerations, as public schooling is free, whereas most ELPs charge fees. The remaining ± 29% of 4-year-old children were not attending any form of group learning programme in 2024. The children in the non-enrolled sub-study were purposively drawn from this group.

Delivering Early Learning Through Partnership

South Africa's early learning delivery model is based on a social compact, where the majority of ELPs are delivered by private individuals and non-profit organisations, with the government playing a crucial enabling role through regulation, monitoring and financial subsidies.

The government's stated intention [7] is to ensure universal access to quality early learning for all children by 2030. This ambitious goal was endorsed by the ECD ecosystem at the 2025 Bana Pele (Children First) Leadership Summit, co-convened by the Minister of Basic Education and the chair of Business Leadership SA (BLSA). Within this overarching vision, the 2030 Strategy for ECD Programmes [8] outlines five strategic priorities, including one that calls for programme quality enhancement through appropriate support and monitoring. The *Thrive by Five Index* offers a structured monitoring framework that aligns with this priority, tracking both developmental outcomes and ELP quality at scale.

Within this context, the *2024 Index* consists of two study components:

- A primary study focusing on 4-year-old children enrolled in an ELP at the time of data collection.
- An exploratory sub-study of 4-year-old children not enrolled in an ELP in 2024.

1.3. Research Questions

The study design is grounded in the Nurturing Care Framework for Early Childhood Development [3], which emphasises five interconnected requirements for optimal child development: good health, adequate nutrition, responsive caregiving, safety and security, and opportunities for early learning.

Where possible, the survey instruments and indicators were aligned with these domains, allowing the *2024 Index* to provide a more comprehensive overview of the conditions that support or hinder young children's development. The *Thrive by Five Index 2024* aims to answer the following questions developed by an interdisciplinary team in consultation with the Department of Basic Education:

1. Developmental status of enrolled children (aged 50–59 months)

- To what extent are children enrolled in ELPs developmentally On Track for their age in:
  - Early learning, overall and within each of the five ELOM 4&5 domains
  - Social and Emotional Functioning
  - Physical growth (as measured through height-for-age indicators)?
- How do these outcomes vary by gender, children's socio-economic circumstances, and province? (This report focuses only on national-level data. Separate provincial reports are available)
- Have early learning outcomes changed between 2021 and 2024 for enrolled children aged 50–59 months?

2. Determinants of developmental outcomes for enrolled children

- Which factors, or combinations of factors, are associated with better early learning and social-emotional outcomes for children in SA? Specifically:
  - How do features of the ELP, including learning programme quality, facilities, staff qualifications and teaching practices, affect outcomes?
  - How do primary caregiver (PCG) attributes and the home learning environment influence development?
  - What household conditions and resources support or hinder early development?

3.Understanding non-enrolment and vulnerability

- The non-enrolled sub-study explored the following key questions:
  - Is it operationally feasible to identify, access, and assess developmental outcomes for children aged 50–59 months who are not enrolled in ELPs?
  - What is the developmental profile of the non-enrolled children, in terms of early learning and physical growth?
  - What are the characteristics of non-enrolled children and their primary caregivers and households, and what do they reveal about risks to child development?

1.4. Study Outputs

This report provides a summary of key findings from the *Thrive by Five Index 2024*, focusing on national-level data and the most important results, particularly those addressing the core research questions. Provincial-level findings are available in separate reports, which will be made available on the *Thrive by Five Index* website.

Importantly, the journey from study design to sharing results is rarely straightforward. At each stage - whether in instrument development, sampling, data cleaning, weighting, analysis, or reporting - researchers must make decisions that influence how findings are framed, interpreted, and ultimately understood. In this report, and the accompanying *Thrive by Five Index 2024 Technical Report* (available on the website), we have aimed to be as transparent as possible about the rationale behind these methodological choices, including the trade-offs and counterfactuals considered along the way.

In the coming months, the *Index* team and partners will release a suite of additional outputs - including provincial reports, working papers, peer-reviewed publications, policy briefs, action guides, and insight briefs - to deepen our understanding of the factors that support or hinder young children's ability to thrive, and help to translate evidence into action.

To promote shared learning and accountability, the *Thrive by Five Index* datasets will be made available as open access. We encourage others to interrogate the data, replicate the analysis, or apply alternative methods and build on this foundation. Members of the core research team are available to discuss key decisions, respond to questions, and foster collaboration to strengthen the ECD data ecosystem.

The *Index* is a collaborative effort between government and civil society, led by the national Department of Basic Education and coordinated by DataDrive2030. Strategic oversight is provided by a steering committee with representatives from the Departments of Basic Education, Health, Social Development, and Treasury, as well as Statistics South Africa and the Presidency. The *Thrive by Five Index 2024* is generously supported by funding partners: FirstRand Foundation, LEGO Foundation, This Day Foundation, and Yellowwoods.

The *Thrive by Five Index* is more than a data collection initiative - it represents a large-scale national investment and serves as a vital data backbone for the Bana Pele Shared Blueprint [9], the Department of Basic Education's framework to achieve universal access to quality early learning by 2030. The effort and expense involved in producing the *Index* are justified only if the collected data drive meaningful change - by informing the design and delivery of targeted interventions and strengthening the systems needed to expand access to quality early learning opportunities across the country.

02 Technical Features

The *Thrive by Five 2024 Index* is a large and complex study. Design work began in earnest in August 2023, and data checking and cleaning were completed in June 2025. This section provides an overview of the main technical features. Comprehensive technical details are in the *Thrive by Five Index 2024 Technical Report* (available on the website).

2.1 Ethics

The 2024 study was designed and conducted in strict accordance with national and institutional ethical guidelines governing research involving human participants, especially vulnerable populations such as young children. The study followed procedures to ensure informed consent, voluntary participation, and the safeguarding of personal and sensitive information at every stage. Consent was obtained before participation, with additional measures taken for age-appropriate assent where necessary. To ensure the safety of all study participants, all fieldwork teams, including enumerators and assessors, underwent thorough vetting, and only those who met all safeguarding criteria were allowed to engage directly with children and other participants.

The *Thrive by Five Index 2024* received ethical clearance from the Ethics Review Committee of the Faculty of Humanities at the University of Cape Town in August 2024 (Reference #: PSY2024-032).

2.2 Study Components

The *2024 Index* has two study components (outlined in Table 1):

1. Children aged 50-59 months enrolled in ELPs
2. Children in the same age group who are not enrolled in ELPs

ELPs in 432 wards/combined wards across all nine provinces were listed. This list was used to create the sampling frame from which ELPs were selected for the study. Data were collected from the sample ELPs between 3 September and 21 November 2024. The listing of households with non-enrolled children was conducted in 45 wards, in the three provinces covered by the sub-study – Gauteng, KwaZulu-Natal and Western Cape. All listed households were visited, and data were collected between 28 October and 21 November 2024.

Table 1: Overview of 2024 Index study components

Enrolled children	Sub-study of non-enrolled children
Listing of ELPs	**Listing of households**
• Listing of eligible ELPs in 432 wards/combined wards selected for the main sample, across all 9 provinces. • Construction of ELP sampling frame based on the listing, and sampling of ELPs.	• Listing of households with eligible children in 45 low-income wards in Gauteng, KwaZulu-Natal and Western Cape provinces.
Data Collection	
• ELOM 4&5 assessment of children aged 50-59 months currently enrolled in ELPs. • Practitioner rating of assessed children's Social-Emotional Functioning (SEF). • Interviews with assessed children's primary caregivers. • Enumerator observation of class attended by assessed children. • Enumerator observation of ELP facilities. • Principal and practitioner interviews.	• ELOM 4&5 assessment of children aged 50-59 months not enrolled in an ELP between January 2024 and the time of the data collection (October-November 2024). • Interviews with assessed children's primary caregivers.

2.3 Survey Instruments

The development of the *2024 Index* survey instruments involved consultations and workshops with over 50 national and international researchers in the required fields of expertise over three months. It also included extensive desk-testing of the electronic forms as well as pre-testing in the field - in the Eastern Cape and Western Cape in April-May 2024, followed by some revisions. The forms were finalised during the enumerator training in September 2024.

Eight survey instruments were used to collect data from and about children enrolled in ELPs:

1. Child sampling form
2. ELOM 4&5 Assessment Tool (direct child assessment)
3. Social-Emotional Functioning (SEF) Rating Scale (the practitioner's rating of the child)
4. Learning Programme Quality Assessment Version 2 Tool (LPQA v2)
5. Facility observation form
6. Principal interview
7. Practitioner interview
8. Primary caregiver interview

For the non-enrolled sub-study, children were assessed using the ELOM 4&5. The SEF form was administered to primary caregivers (instead of practitioners). The primary caregiver interview was the same as for enrolled children, apart from the section on ELP attendance.

The main contents of the different survey forms are set out in Table 2.

The ELOM 4&5, SEF and LPQA (v2) are of particular importance for the *2024 Index* and warrant further attention. All three instruments were developed in South Africa and draw extensively on global best practice.

- The **Early Learning Outcomes Measure 4&5 (ELOM 4&5)** was specifically designed for the South African context and is aligned with the National Curriculum Framework (NCF) [10]. It is psychometrically valid [11], [12], [13] with associated standards for overall child development for five domains: Gross Motor Development (GMD), Fine Motor Coordination and Visual Motor Integration (FMC-VMI), Emergent Numeracy and Mathematics (ENM), Cognition and Executive Function (CEF) and Emergent Literacy and Language (ELL). It provides a reliable and fair assessment of children regardless of their socio-economic circumstances and ethnolinguistic background. It also contains a measurement of child height using a mobile stadiometer.

- The **Social-Emotional Functioning (SEF) Rating Scale** is used to measure a child's social and emotional functioning. It is administered as a questionnaire with a person who knows the child, such as a practitioner or primary caregiver. The SEF Rating Scale has 13 items across two key areas – Social Relations with Peers and Adults, and Emotional Readiness for school.

- The **Learning Programme Quality Assessment (v2) Tool** involves a two-hour observation of a class. It has 22 items spread across five domains: Materials & Equipment, Planning & Assessment, Learning Programme, Teaching Strategies & Relationships & Interactions. The domain and total scores are categorised into three rating levels: Inadequate, Basic and Good.

The instruments are explained in greater detail in the relevant sections of this report.

2.4 Sampling Strategy for Enrolled Children

Three core principles guided the development of the *2024 Index* sampling strategy for the enrolled children component:

- The sample must be statistically representative of the underlying population aged 50-59 months enrolled in ELPs at both national and provincial levels
- It must be possible to compare the 2024 key child outcomes to future rounds of the *Index*
- It must be possible to replicate the sampling strategy in the future.

A stratified multistage sampling design was used. Before sampling, 38 strata were constructed based on province and a weighted school quintile, where the weights were based on the number of Grade 3 learners in each school. Within each stratum, three-stage sampling was implemented.

Stage 1: Selection of wards

Wards were selected with probability proportional to size, where the measure of size was the number of Grade 3 learners in each ward. In a very small number of cases, two or more wards were combined to ensure a feasible enumeration area (defined as having 60 or more Grade 3 learners). Across the country, 432 wards were selected (equivalent to 11% of all wards in SA). Each province was allocated a minimum of 35 wards, with the balance allocated to the other provinces in proportion to the number of 2-year-olds in each province as per the 2022 National Census.

Stage 2: Selection of ELPs

After the selection of wards, an ELP listing exercise was conducted in each ward to construct the sampling frame from which to select ELPs. Eligible ELPs were randomly selected - to be eligible, an ELP had to have at least one enrolled child aged 50-59 months, be operational and be open for at least 8 hours per week. Within each stratum, the target number of ELPs was equal to three times the number of selected wards.

Stage 3: Selection of children

At ELPs a child was eligible if they were 50-59 months old at the time of the data collection; their primary caregiver had not refused consent for them to participate; they were present on the day of the survey visit; they could be assessed in their home language; and they had passed the ELOM 4&5 screening for seeing, hearing, mobility, and communication difficulties. Child assent was also required.

Within each ward, the aim was to assess a number of children equal to four times the number of selected ELPs, and an equal number of boys and girls. The children to be assessed were randomly selected from the eligible group. During data collection, if fewer than the target of 12 children were assessed in the first three ELPs in a selected ward, an additional ELP was chosen within the same ward, or if this was not possible, an additional ELP was selected in another ward within the same stratum.

Weighting

As the *2024 Index* is a sample-based survey, weights were constructed to produce statistically representative estimates. These weights are applied to the descriptive statistics to ensure that the results are representative of the population. In the regression modelling, however, no weight correction is used. This decision reflects both methodological considerations and common practice, as weighting in regression can introduce its own limitations. In many cases, weighting makes little difference to the results; when it does, the difference may be driven by a small number of observations with unusually large weights, which can reduce the reliability of both weighted and unweighted estimates.

2.5 Sampling Strategy for Non-Enrolled Children

The sample for the non-enrolled sub-study was purposively selected. In the three sub-study provinces (Gauteng, KwaZulu-Natal and Western Cape), 45 wards in three types of low-income areas were identified: formal urban, informal and rural. Within each of the selected wards, three small area layers (SAL) were then chosen to maximise their distance to any ELPs. Within each selected SAL, in-field screening was conducted to identify dwellings, which were then visited to determine if a household had eligible children. If a household did, it was included in the sub-study.

Importantly, this sample is *not representative* of the population of non-enrolled children in the country.

2.6 Sample Sizes

Sample size enrolled children

During data collection, daily monitoring was conducted to ensure the sample was implemented as designed.

- The final **ward sample size** was 414 after 18 were removed for one of the following reasons: no ELP identified during the listing; safety and security issues during fieldwork; and concerns around the assessments conducted by two assessors (explained in more detail below).
- The final **ELPs sample size** was 1,388, exceeding the planned size of 1,296.
- The planned **child sample size** was 5,184. A total of 5,358 assessments were conducted, resulting in a final sample size of 5,001 children after removing five observations at one ELP that were not randomly sampled; 110 observations that were invalid according to ELOM 4&5 rules (i.e. assessment was not conducted in child's home language, child did not assent to assessment, child scored zero on two or more ELOM 4&5 domains, child exited the assessment early and/or child had a disability); 185 observations for two disqualified assessors (see below); and 57 observations that did not have one or more of the required survey forms.
- The final **primary caregivers sample size** was 3,841, equivalent to 77% of the 5,001 assessed children. Examination of the full child sample and the subsample of children with primary caregiver interviews found good alignment across key child and ELP characteristics, suggesting that the subsample is broadly representative of the full sample.

Sample size non-enrolled children

The planned sample size for non-enrolled children was 540, but it was extremely challenging to identify and access non-enrolled children in the field. During the household listing, 334 non-enrolled children were identified. After removing a child who was not within the age range, a child who did not have a PCG interview, and 60 ELOM 4&5 assessments that were invalid according to the ELOM 4&5 rules (see above), the final sample size was 272 non-enrolled children.

Table 2: 2024 Index survey instruments and sample sizes

Survey instruments	Main purpose	Sample size Planned	Sample size Realised	Realised vs. planned
Enrolled children				
Child sampling at ELP	Randomly select 4 children aged 50-59 months per ELP (half boys/half girls) for the ELOM 4&5 and SEF Rating. Select the class to be observed for LPQA (v2). Collect contact information for assessed children's primary caregivers.	1,296	1,388	107%
ELOM 4&5 (face-to-face)	Capture early learning levels, overall and by domain - GMD, ELL, ENM, FMC-VMI and CEF. Measure children's height using a stadiometer to capture physical growth status.	5,189	5,001	96%
Child Social-Emotional Functioning (face-to-face)	Capture children's social and emotional functioning levels.	5,189	5,001	96%
Facility observation (face-to-face)	Capture ELP key facility features that can influence children's security, health and learning experience, e.g. existence of a fence, source of drinking water, type of toilets.	1,296	1,388	107%
Learning Programme Quality Assessment (face-to-face)	Capture the quality of the learning programme across 5 areas: learning environment, learning and teaching, relationships and interactions, curriculum and teaching strategies.	1,296	1,388	107%
Principal interview (face-to-face)	Capture respondents' background characteristics, work environment, barriers to doing their job, views of gender, growth mindset, and play, as well as key ELP characteristics and funding.	1,296	1,388	107%

Table 2: 2024 Index survey instruments and sample sizes

Survey instruments	Main purpose	Sample size Planned	Sample size Realised	Realised vs. planned
Enrolled children				
Practitioner interview (face-to-face)	Capture respondents' background characteristics, work environment, barriers to doing their job and views of gender, growth mindset and play. Not administered when the principal is the only practitioner.	1,296	1,223	94%
Primary caregiver interview (telephonic)	Capture children's socio-economic circumstances, home learning environment, home stressors, primary caregiver and household characteristics expected to influence the key child development outcomes measured by the *Thrive by Five Index.*	5,001	3,841	77%
Sub-study of non-enrolled children				
ELOM 4&5 (face-to-face)	Capture early learning levels, overall and by domain; measurement of child height.	540	272	50%
Primary caregiver interview (face-to-face)	Capture children's socio-economic circumstances, home learning environment, caregiver and household characteristics that are expected to influence the key child development outcomes.	540	272	50%

2.7 Data Preparation

A set of general checks was performed on both the enrolled and non-enrolled data when they were received from the field and upon completion of fieldwork, using customised checking scripts developed for the *2024 Index*. Key variables underwent additional in-depth checks. Data quality was found to be high overall.

The ELOM 4&5 data are the most important and underwent even more extensive checking. This included a systematic review of photos of the drawings made by children for two ELOM 4&5 items, which uncovered cases of incorrect scoring by assessors, where rescoring was required. It also found that one assessor was not fully accredited, and that another assessor had scored all the assessed children identically on one ELOM 4&5 item. The assessments conducted by these two assessors were removed from the enrolled sample.

Preliminary analysis of ELOM 4&5 results raised some queries. Possible explanations, including issues with the ELOM 4&5 survey instrument, sample implementation, weight construction, and fieldwork, were systematically explored. After eliminating other possibilities, assessor bias remained as the most likely explanation. Further analysis revealed that three assessors consistently registered higher domain scores than the other assessors. This was further corroborated by ELOM 4&5 item-by-item screening, statistical tests, post-survey interviews, and statistical modelling. As a result, the domain scores for these three assessors were adjusted by recentering (for more details, refer to the *Thrive by Five Index 2024 Technical Report* on the **website**).

2.8 Understanding the Data: Gender and Socio-Economic Factors

A recurring theme is the disaggregation of findings by gender and socio-economic circumstances. This section explains how these two terms are used in this report.

Gender

In this report, the term ***gender*** is used to distinguish between boys and girls, rather than the term *sex*. While *sex* refers to biological differences, *gender* encompasses the social and cultural expectations associated with being male or female, which often influence how children are treated, what is expected of them, and how they engage with learning environments. Gender is the more appropriate term when examining patterns in developmental outcomes, as it captures the broader social influences that may contribute to differences between boys and girls. It also aligns with common practice in educational and developmental research, where the focus is on social roles and experiences, rather than biological attributes alone.

Socio-economic circumstances

Children's socio-economic circumstances are a key lens for understanding disparities in developmental outcomes and access to opportunities. Economic circumstances - from poverty to affluence - are deeply connected to the resources and support systems available to young children, significantly affecting caregiver wellbeing, child health and nutrition, the home learning environment, and access to quality early learning programmes - major influences on developmental outcomes.

A core objective of the *Index* is to track how the performance gap between children from higher and lower socio-economic groups changes over time. Particularly, whether children from less advantaged circumstances are catching up with their more advantaged peers. A reliable, valid measure of where children are located on the poverty-wealth spectrum was required that would:

- Be a meaningful proxy for socio-economic circumstances
- Provide valid comparisons over time
- Be replicable for future rounds of the *Thrive by Five Index.*

Monthly ELP fees, reported by principals and validated through cross-checks with parent-reported data (available for 95% of ELPs in the final sample), were selected as the most appropriate available proxy for children's socio-economic circumstances, following consultation with a technical reference group. Fees offer a practical reflection of what households are likely able to afford within their local context, providing a useful, if imperfect, indicator of relative economic means.

The sample was initially divided into five quintiles based on fee levels. However, further analysis revealed important differences within the highest and lowest quintiles. To reflect this, these two quintiles were split into low and high respectively (Q1 Low and Q1 High) and (Q5 Low and Q5 High), resulting in a total of seven ELP fee groups.

Table 3 presents the minimum and maximum monthly fees charged for each of the seven groups, along with the number of ELPs and children included in the sample for each. The largest groups by number of children are Quintiles 2, 3, and 4, each representing over 900 children.

Nearly all ELPs charge fees (97%) with fees ranging from R0–R50 in Q1 Low to over R1,690 in Q5 High.

Table 3: Fee ranges & sample sizes in all groupings

Fee quintile group	Minimum monthly fee per child (Rands)	Maximum monthly fee per child (Rands)	Number of ELPs	Number of children
Q1 Low	0	50	159	585
Q1 High	51	120	127	458
Q2	121	240	273	1,042
Q3	241	350	280	998
Q4	351	800	274	945
Q5 Low	801	1,690	138	480
Q5 High	1,691	6,400	137	493

Source: Unweighted data from *Thrive by Five Index 2024* data

In some parts of this report, for ease of comparison and interpretability, the data are grouped into two broader categories: the Top 20% (Q5 Low and Q5 High) and the Bottom 80% (Q1 Low, Q1 high, Q2, Q3 and Q4). This two-group disaggregation is referred to throughout the document as **'Top 20% ELP Fees vs Bottom 80% ELP Fees' or 'Higher Fee ELPs vs Lower Fee ELPs'.**

2.9 Accessing the datasets

The *2024 Index* datasets will be available on UCT's *DataFirst Open Data Portal.* The link to the data will be available from the *Thrive by Five Index* **website.**

Section 2

Enrolled Children

The following section presents findings on children enrolled in ELPs.

Here is what it covers:

- **Sample characteristics:** What are the characteristics of the enrolled sample, including children, households and early learning programme profiles?
- **Developmental outcomes:** To what extent are enrolled children developmentally On Track for their age in early learning, both overall and within each of the five ELOM 4&5 domains?
- **Social-emotional functioning and physical growth:** How are enrolled children faring in terms of social and emotional functioning, and physical growth?
- **Inequality in outcomes:** How do these outcomes vary by gender and ELP fee levels?
- **Change over time:** Can we compare outcomes between the 2021 and 2024 rounds of the Index?
- **Programme quality:** What is the relationship between ELP characteristics and children's learning outcomes?
- **Caregiver attributes:** How do primary caregiver characteristics and the home learning environment influence children's development?
- **Household influences:** What household conditions and resources support or hinder children's early learning?

Finally, this section moves beyond description to explanation - identifying the combination of factors that collectively account for nearly half of the variation in ELOM 4&5 outcomes. It also explores the direct and indirect pathways through which these factors influence children's developmental trajectories.

03 Enrolled Sample Child, Household and ELP Profiles

3.1. Profile of Enrolled Children (50-59 months)

The realised sample comprised 5,001 enrolled children in 1,388 ELPs across the country.

Child age, gender and language

Child age was checked and confirmed on the day of assessment (automated calculation in the survey instrument). To be eligible children had to be between 50-59 months old. The mean age of the sample was 54.8 months, with marginal differences between boys (54.9 months) and girls (54.8 months). The gender distribution was evenly balanced across the full sample (Table 4).

Table 4: Gender distribution of enrolled sample

% Boys	% Girls
49%	51%
N = 2,451	N = 2,550

Source: Weighted estimates based on *Thrive by Five Index 2024* data

The realised sample comprised **5,001 enrolled children in 1,388 ELPs** across the country

Home language data was collected from PCGs to examine whether alignment between a child's home language and the language of teaching and learning at the ELP influences learning outcomes. For the ELOM 4&5, the child's mother tongue was used as the primary language of assessment. Where necessary and possible, children were allowed to switch between languages for specific items, depending on which language they felt most comfortable using for that topic.

The composition of the sample reflects South Africa's linguistic diversity (Table 5). Among the 3,841 primary caregivers (PCGs) who provided language data, 56% reported that their 4-year-old child spoke more than one language at home, underscoring the rich multilingual environment in which many children are raised. Over half (52%) of the children speak some English at home, even if it was not their mother tongue.

Table 5: Languages that the child speaks at home

Languages*	% children	Languages	% children
English	52%	Afrikaans	6%
isiZulu	29%	siSwati	5%
Sesotho se Leboa (Sepedi)	20%	Tshivenda	4%
isiXhosa	19%	isiNdebele	1%
Setswana	14%	Other	1%
Sesotho	11%	N	3,841
Xitsonga	8%		

Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: This variable does not sum to 100% as some children may speak more than one language at home on a regular basis.

Children with disabilities

While children with disabilities were not assessed, information was collected on the number of children with disabilities enrolled in ELPs. This covered functional difficulties related to seeing, hearing, walking, communicating, and learning.

Because children could be counted in more than one disability category, and because these categories are not comprehensive, an overall disability prevalence figure cannot be calculated from this dataset. However, even when the categories are combined, children with disabilities account for a low 3% of total enrolment in the sample. Estimates of the proportion of young children with disabilities in South Africa vary depending on the definitions and data sources used [14], making it difficult to determine the actual size of this population. This lack of reliable baseline data poses a significant challenge for tracking progress towards the national goal of inclusive early learning.

3.2. Primary Caregiver and Household Profile

This section summarises the main characteristics of households with enrolled children, based on data collected through telephonic interviews with 3,841 primary caregivers (PCGs), representing 77% of the assessed children. A comparison between the full sample of assessed children and the subsample with completed PCG interviews showed strong alignment across key child- and ELP-level characteristics. This suggests that the PCG subsample is broadly representative of the full sample on these dimensions.

As expected, the majority of PCGs were the biological mother (71%), followed by grandmothers (15%). These results are consistent with findings from previous surveys [15] [16], highlighting that the caregiving role is predominantly undertaken by females. Children in Higher Fee ELPs were more likely to be in the care of their biological parents than those in Lower Fee ELPs.

The average age of PCGs in the sample was 37 years, with ages ranging from 15 to 86 years. The analysis found that close to 4% of children enrolled in Lower Fee ELPs were born to teen mothers (18 years or younger) while no children in Higher Fee ELPs were.

Table 6: PCG relationship to assessed child

PCG relationship to the child	All	Bottom 80% ELP Fees	Top 20% ELP Fees
Biological mother	71%	70%	80%
Grandmother	15%	16%	4%
Biological father	6%	5%	12%
Aunt	5%	6%	1%
Other	3%	3%	3%
N	3,841	3,162	679

Source: Weighted estimates based on Thrive by Five Index 2024 data

Table 7 shows the socio-economic profile of enrolled children's households and the stark differences in the home environment of children enrolled in Lower Fee compared to Higher Fee ELPs.

Children attending Higher Fee ELPs are 2.5 times more likely to have a computer at home and over four times more likely to have in-dwelling internet than their peers in Lower Fee ELPs. Almost all PCGs (99.9%) reported having access to a cell phone (although not necessarily a smartphone), indicating virtually universal coverage. Unemployment among PCGs for children in Lower Fee ELPs is extremely high, at 47% compared to 18% for PCGs with children in Higher Fee ELPs.

Access to clean water is essential to protect young children from intestinal infectious diseases, among other things. In the Bottom 80% fee group, only 23% of households have an indoor tap, whereas 67% of households in the Top 20% fee group do, creating a clear health disparity.

The means-tested Child Support Grant (CSG), valued at R530 per child per month at the time of the survey, reaches nearly 80% of enrolled children. Pro-poor targeting is evident: 84% CSG uptake in the lower fee ELPs versus 25% in the higher fee ELPs. A 98% birth-registration rate facilitates high coverage as applicants are required to submit a birth certificate as part of their application process.

Table 7: Household socio-economic conditions

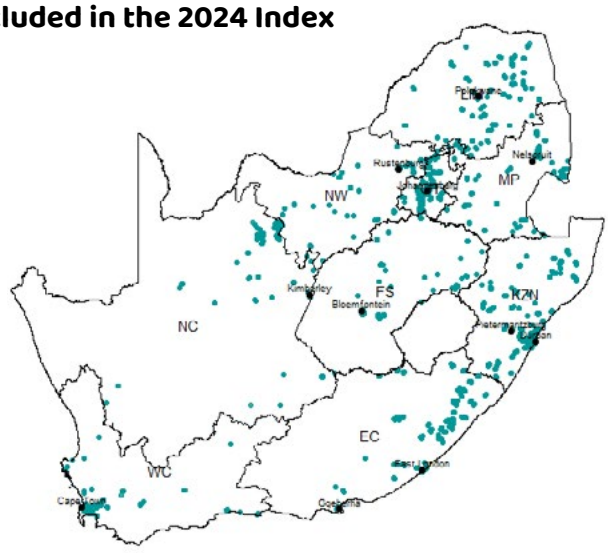
Indicator	Total sample	Bottom 80% ELP Fees	Top 20% ELP Fees	N*
Functional laptop/computer in the home	29%	25%	75%	3,829
Access to a cellphone	100%	100%	100%	3,829
HH has a motor-car in working order	37%	32%	84%	3,829
Internet is mainly accessed by connection in the dwelling	23%	17%	78%	3,822
Internet is mainly accessed via mobile devices	70%	75%	22%	3,822
No form of internet at home	7%	8%	<1%	3,822
Main water source: tap inside dwelling	28%	23%	67%	3,841
PCG is unemployed	45%	47%	18%	3,840
Child Support Grant receipt for indexed child	79%	84%	25%	3,810

Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Due to Don't know responses and Refusals, sample sizes differed for questions - this is indicated in the N column

3.3. Early Learning Programmes Profile

The planned sample size for Early Learning Programmes (ELPs) was 1,296, and this target was exceeded, with a final sample of 1,388 ELPs (Figure 1)[2]. This section presents key characteristics of these programmes, drawing on multiple data sources including a facility observation, interviews with principals and practitioners, and structured observations of the assessed children's classrooms.

Figure 1: Map of ELPs included in the 2024 Index



[2] To provide a broader context, a separate working paper offers a comparison between the ELPs listed and surveyed for the 2024 Index and those included in the Department of Basic Education ECD Census (2021/2022). This analysis tracks changes in the ECD landscape across the 432 wards in which the 2024 Index was conducted, providing insight into both continuity and shifts in provision, registration, and service delivery since the time of the Census

The large majority of the ELPs in the sample (84%) have been operating for at least six years, with some in existence for over two decades. Over half (58%) of ELPs were founded by the current principal, and an additional 27% by a previous principal, highlighting the privatised, micro-enterprise character of the ECD sector in South Africa. Almost all (96%) practitioners and principals in this sample were female.

The average enrolment per ELP was 51 children. Attendance on the day of the survey was also captured, and the average number of children present was 39. The difference between reported enrolment and observed attendance on the day most likely reflects a combination of: child absence, weak record keeping and inflated enrolment figures by ELPs.

Grade R classes were three times more common in Higher Fee ELPs (64%) than in Lower Fee ELPs (21%). However, in both groups, fewer than half of these Grade R providers were registered with the Department of Basic Education (DBE).

Partial Care Facility Registration with DBE is a legal requirement for all ELPs, and entails meeting basic administrative, health and safety standards. Importantly, partial care facility registration is also one of the prerequisites for receiving the Government ECD subsidy. Just over half (55%) of principals reported having full partial care facility registration, but only 45% were able to provide evidence in the form of a certificate. A further 8% were conditionally registered, 18% were in the process of registering, 18% were not registered and 1% did not know their status.

The Government-provided ECD subsidy was valued at R18 per day per child at the time of the study and is the second most commonly reported source of funding cited by programmes - 44% of the ELPs received the subsidy. However, there remain significant challenges with the administration of the subsidy. A majority of subsidised ELPs (61%) reported receiving the expected amount and just over half (54%) reported that they always receive it on time. Considering both, only 39% of subsidised ELPs reported that subsidies were always paid on time and in the expected amounts.

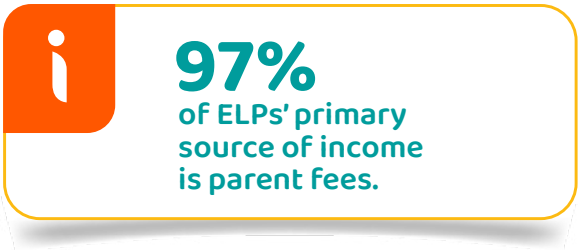
The ECD subsidy is strongly pro-poor, with Lower Fee ELPs much more likely to receive it than Higher Fee ELPs (Table 8). At the two extremes - for ELPs charging fees of R0-50 per child per month, 74% received the ECD subsidy, while for ELPs charging more than R1,690, a mere 3% received it. That some ELPs in the top fee group receive the ECD subsidy is because it follows the child, and a child from less advantaged socio-economic circumstances may attend a Higher Fee ELP.

Table 8: % ELPs within each fee category and those receiving subsidy

Fees per month	% ELPs within each fee range	% ELPs in fee range that receive the Govt ECD subsidy
0-R50	16%	74%
R51-120	8%	73%
R121-240	22%	67%
R241-350	20%	32%
R351-800	22%	22%
R801-1,690	7%	9%
More than R1,690	5%	3%
N	1,388	

Source: Weighted estimates based on *Thrive by Five Index 2024* data

Even in instances where ELPs do receive the Government subsidy, it is inadequate to cover the full costs of provisioning [17]. As a result, **parent fees remain the primary source of income for 97% of ELPs.** While most ELPs rely on parent fees, there is a stark contrast in average fees charged, with 11% of ELPs charging less than R50 per month and 9% charging over R1,690 per month.



Fee recovery is a significant challenge, and only 20% of ELPs reported that all parents had paid their fees in the month prior to the programme visit. Fee recovery rates and regularity of payment were notably lower among the Bottom 80% of ELPs, underscoring the financial vulnerability of the families they serve, which affects the financial vulnerability of the ELP. The heavy reliance on parent fees for the operation of ELPs has been widely documented [18], [19], and continues to limit both access and quality, particularly in the poorest communities [19], [20].

The challenges that ELPs face with fee recovery, the low monetary value of the subsidy, barriers to accessing the subsidy and irregular payment of this subsidy exacerbate the fragile economic footing of ELPs, disproportionately impacting those serving the poorest communities and compromising their ability to deliver a quality programme. A large majority of principals (79%) reported facing barriers in fulfilling their roles, with financial challenges being the most common. These concerns were consistent across both Lower and Higher Fee ELPs. Specifically, 57% indicated that there was not enough income to run their programme the way they would like.

Several other ELP characteristics were explored through interviews and observation:

- *Language of Learning and Teaching (LOLT):* There is strong evidence to show that children do better when taught in their mother tongue [21], [22], [23]. However, in this sample, 56% of children are exposed to more than one language at home, making it difficult to determine the extent of alignment between home language and the LOLT. As a result, the findings related to language match should be interpreted with caution. The vast majority (82%) of principals indicated that the LOLT matched the home language of at least half the children enrolled in their programmes. Notably, this alignment varied by fee level: only 68% of ELPs in the highest 20% fee group reported a LOLT-home language match, compared to 84% in the lowest 80% fee group. English was reported as the primary LOLT in 32% of all ELPs. This figure masks stark differences by fee level - 91% of high-fee ELPs used English as the main language of instruction, compared to just 24% of low-fee ELPs.

- *Curriculum use and available resources:* The majority of principals (83%) and practitioners (81%) reported using a learning curriculum, but only half indicated that the curriculum came with support materials to facilitate its implementation. The most commonly cited curriculum was the National Curriculum Framework (NCF) or its Early Learning Development Area (ELDA) components [10], used by 60% of respondents overall. A further 14% of principals reported using various NGO curricula.

- *Age grouping and class size:* The majority of ELPs have classes grouped by age, which has been identified as important for phase-appropriate curriculum implementation [24]. 19% of the Lower Fee ELPs grouped children of all ages together compared with 8% of the Higher Fee ELP group, which is likely to be due to the size of enrolment or infrastructure and staffing limitations. Classes observed had an average of 20 children. Higher Fee ELPs had slightly smaller classes on average, at 14 children (with class sizes ranging from 5-30), compared with 21 children in the Lower Fee ELP group (with class sizes ranging from 6-47 children[3]).

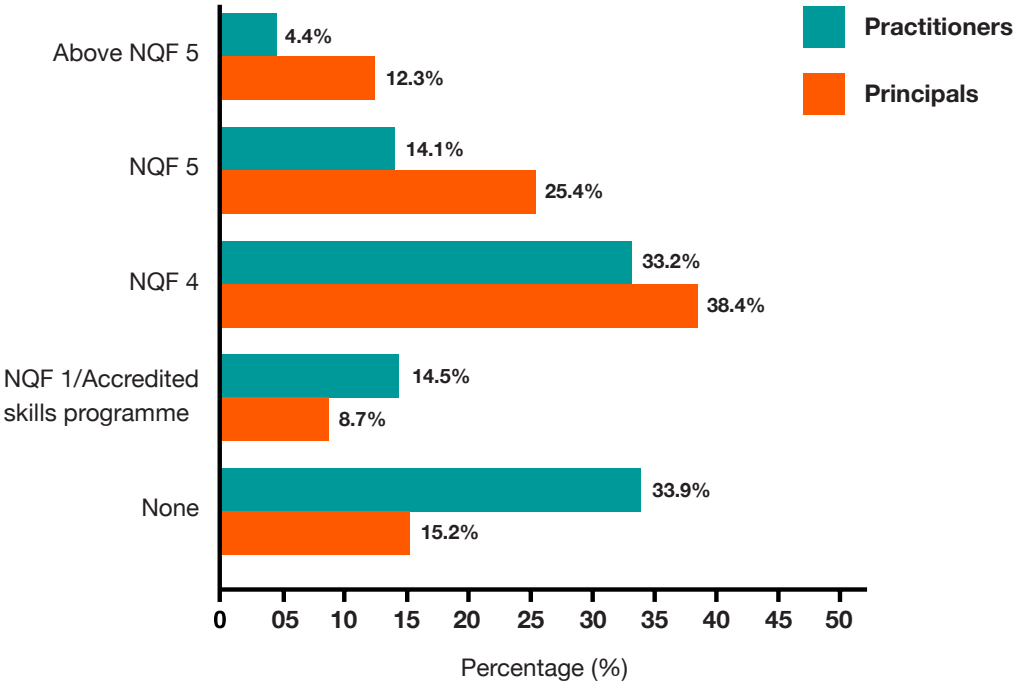
3 This is after removing obvious outliers

- *Attitudes to play:* Play is recognised as a key pathway for young children's learning [25] and the NCF is underpinned by play pedagogy. However, local studies indicate that the role of play in learning is not necessarily well understood [24]. The majority of principals (77%) and practitioners (70%) agreed that play is a fundamental part of learning and development, with a greater understanding of this amongst Higher Fee ELPs. However, over 70% of principals defined play as "when children take a break from learning to have fun". Over 40% of principals and practitioners felt that when it comes to learning, it is more important to instruct children than to play with them. These findings highlight that while the importance of play in ECD is gaining ground, there remains some ambivalence to the idea that play is a key enabler and pathway to learning. Extending learning through play is a concept that is not well understood, particularly in Lower Fee ELPs, and only 33% of principals reported receiving any training on play-based learning during 2023 and 2024.

- *Inclusiveness:* Principals in ELPs who identified children with disabilities were asked about support offered. The main strategies for supporting children with disabilities were adapting equipment and activities, and staff training on inclusiveness. Better-resourced ELPs were significantly more likely to draw on support from teaching assistants and to engage specialists.

- *Qualifications, training and experience:* Practitioner and principal qualifications are often used as quality indicators, and public investment in improving ECD qualifications has been considerable. The graph below shows the highest level of ECD qualification for principals and practitioners. Principals have higher qualifications than practitioners, but a concerning 15% of principals have no ECD training at all, nor do 34% of practitioners. NQF Level 4 qualifications are most common for both groups. Very few principals have above Level 5, which is significant when evidence shows a positive association between tertiary trained leaders and classroom quality [26]. Interestingly, only 53% of principals reported that having an ECD qualification is a factor they consider when recruiting practitioners, and only 39% consider prior ECD work experience.

Figure 2: Highest ECD qualification of principals and practitioners



Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: The principal sample size is 1,382 and the practitioner sample size is 1,216.

Among practitioners, 31% identified a lack of training as a major barrier to effectively performing their role. Practitioners working in the Top 20% of ELPs were significantly more likely to report needing additional training. This may reflect a greater awareness of the value of professional development among practitioners in better-resourced settings. Alternatively, it could point to the fact that national efforts to expand access to training have been more concentrated in Lower Fee ELPs.

- *On-the-job monitoring and support:* Ongoing professional development and mentoring have been shown to play a critical role in supporting practitioners to improve the quality of early learning provision [27]. Almost 77% of practitioners reported that they felt fully supported to do their jobs. The main sources of this professional support were staff members supporting each other (72%). The vast majority of principals (92%) reported observing classroom practice. Additionally, 70% reported providing feedback with concrete classroom strategies for improvement. This number is substantially higher than what was reported in the 2022 Lego Deep Dive Study [24]. This may indicate social desirability bias in principals' responses and is potentially an area for further investigation.

- *Practitioner remuneration and retention:* This is a critical component of building a competent and stable early learning workforce, particularly when significant investments are made in practitioner training. More than half (56%) of interviewed practitioners had worked at the ELP for less than 5 years, mirroring findings from the DBE's 2021 Baseline Audit [18]. In contrast, principals had an average tenure of 11 years at their current ELP, suggesting that while leadership may be more stable, practitioner turnover remains a challenge that could undermine the long-term impact of training and professional development efforts. Only 57% of practitioners reported having a formal employment contract with their employer, and fewer than half receive paid holiday leave, despite working full-time, with an average workload of 40 hours per week. Practitioners employed in the Top 20% of ELPs (by fee level) were significantly more likely to report access to formal contracts and leave benefits, highlighting disparities in employment conditions across the sector.

Table 9: Practitioner employment conditions

Employment conditions	Total	Bottom 80% ELP Fees	Top 20% ELP Fees	N
Have an employment contract	57%	53%	87%	1,213
Get paid sick leave	54%	50%	81%	1,182
Get paid holiday leave	49%	45%	78%	1,200
Number of hours worked per week (average)	40.4	40.2	42.3	1,222

Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Due to Don't know responses and Refusals, sample sizes differed for questions - this is indicated in the N column

Salaries in the sector are low, with 90% of practitioners earning below the minimum wage for 2024/25 (i.e. less than R4,774 per month for full-time employment [28]). This issue is particularly stark in the lower 80% fee group, where an overwhelming 98% of practitioners fall below the threshold. Half of practitioners (50%) said that their low salary was the primary barrier to doing their job, and 27% of practitioners reported that they were planning to leave the ECD profession. When asked what might encourage them to stay, the three most commonly cited incentives were: (1) a higher salary (88%), (2) increased opportunities for professional development (52%), and (3) greater recognition from the government of the importance of their work (35%).

- *Support to principals:* To date, mentoring and support in the ECD sector have largely focused on practitioners, intending to improve classroom practice. However, significantly greater investment is needed in principals, who serve not only as leaders of ELPs but often as influential figures within their communities. Fewer than half (47%) of principals reported receiving any in-service training during 2023 and 2024. Training was most often provided by NGOs and, to a lesser extent, the DBE. ECD Forums also offer a promising channel for engaging principals. Three-quarters (75%) of principals reported being members of a local ECD Forum, and over 80% of these principals indicated that their forum met more than three times per year.

- *Broader environmental challenges:* Events beyond the control of ELPs can significantly impact both children's access to services and the overall quality of provision. Principals were asked whether their ELP had experienced any unplanned closures during the 2024 school year. Such disruptions were somewhat more common among Lower Fee ELPs, with 16% reporting at least one unplanned closure, compared to 13% among the Higher Fee programmes. The most frequently reported cause of these closures was extreme weather conditions, cited by 36% of affected ELPs. As climate change intensifies, weather-related disruptions are likely to become more frequent, particularly for low-income communities that are often more exposed and less equipped to recover. This underscores the importance of monitoring climate-related disruptions more systematically and integrating climate resilience into ELP infrastructure and planning. The second most frequently reported cause of unplanned ELP closures was community-level threats to safety, including violence, crime, and protest-related disruptions. For children living in high-risk areas, these safety-related closures compound existing inequalities by limiting consistent access to early learning opportunities.

  Both of these challenges, extreme weather events and violence, were also encountered during fieldwork. Floods, snowstorms, and several violent incidents or threats of violence disrupted data collection and, in some cases, led to the complete withdrawal from affected wards. These challenges point to the need for more integrated, cross-sector responses to ensure stable and safe learning environments.

04 Learning Outcomes - Enrolled Children

4.1. Measuring Early Learning Outcomes

Children's learning outcomes were measured using the ELOM 4&5 Years Assessment Tool (ELOM 4&5) - a South African tool standardised for use in eleven official languages. The tool measures performance across five developmental domains for children aged 50–59 months, the focus of this study, and also 60–69 months:

- Gross Motor Development (GMD)
- Fine Motor Coordination and Visual Motor Integration (FMC-VMI)
- Emergent Numeracy and Mathematics (ENM)
- Cognition and Executive Functioning (CEF)
- Emergent Literacy and Language (ELL)

These specific domains were chosen because they cover key areas of early development and are strongly linked to longer-term learning outcomes [11], [12]. By the age of 50–59 months, children's abilities in language and mathematics, executive functioning, fine motor coordination, and visual motor integration are all reliable predictors of achievement during the Foundation Phase of schooling [29], [30], [31].

ELOM 4&5 measures the developmental domains most strongly linked to long-term learning outcomes.

Each domain generates a standardised score out of 20. The five domain scores are summed to produce an ELOM 4&5 Total Score out of 100. Based on their total scores for the test as a whole and in each domain, children are classified into one of three bands: On Track (achieving the expected developmental standard), Falling Behind, and Falling Far Behind. These performance bands were developed through a rigorous, multi-step process combining statistical analysis and expert consultation.

The initial scoring thresholds were based on a standardisation sample of over 1,300 children from diverse socio-economic and language backgrounds. Psychometric analyses were used to define an expected early learning and development standard (On Track) and cut points defining those children Falling Behind or Far Behind the expected standard[4]. Thresholds were agreed in consultation with childhood development experts, measurement specialists, and government stakeholders, including senior officials in the National Departments of Basic Education and Social Development.

[4] The category "On Track" was set at the 60th percentile, representing the level of development expected for school readiness. Children scoring between the 32nd and 59th percentiles were classified as "Falling Behind," while those below the 32nd percentile were deemed "Falling Far Behind."

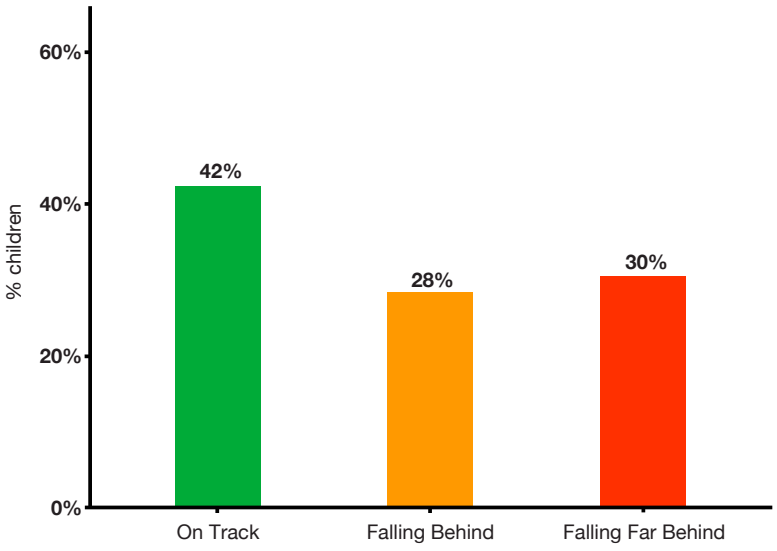
Young children are still acquiring foundational skills and are not expected to complete every task correctly. To accommodate the full range of children's abilities, the ELOM 4&5 assessment uses built-in skip logic - children only progress to more challenging items if they successfully complete a series of earlier easier ones. In addition, the tool includes a set of more advanced "stretch" items, designed to capture higher levels of development that only some children are expected to achieve at this age.

For children aged 50–59 months, a child is considered On Track if they achieve a total score of 46.32 or higher out of 100 standard score points. Those scoring between 36.02 and 46.31 are classified as Falling Behind, while scores below 36.02 place a child in the Falling Far Behind category. Equivalent cut scores are calculated per domain to identify whether a child is On Track, Falling Behind, or Falling Far Behind on each of the five domains. The three performance bands are colour-coded: green indicates On Track, orange indicates Falling Behind, and red indicates Falling Far Behind.

4.2 Early Learning Outcomes (ELOM 4&5 Total Score)

Only 42% of children enrolled in an ELP in South Africa are developmentally On Track for their age in terms of early learning. This means that less than half of enrolled children have acquired the foundational skills needed to support a successful start to formal schooling. This overall score reflects children's performance across the five domains.

Figure 3: ELOM 4&5 Total - % On Track, Falling Behind and Falling Far Behind



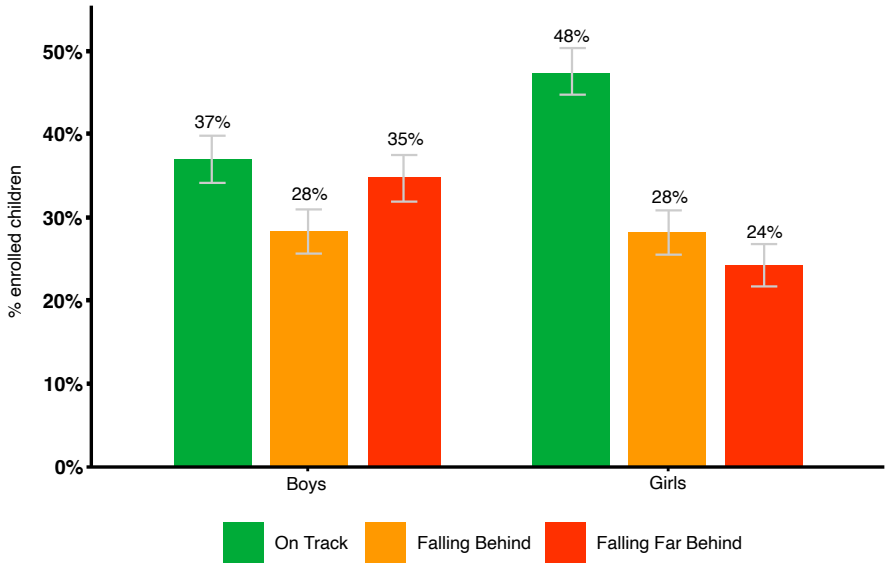
42%
of enrolled children are developmentally On Track for early learning

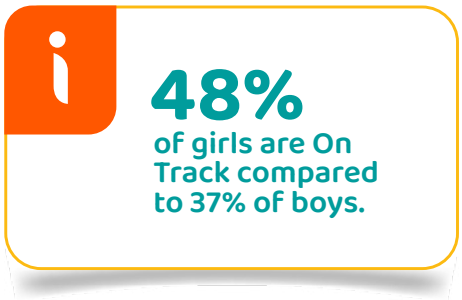
Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.

Gender differences in child outcomes

A higher proportion of girls are On Track - 48% of girls meet the expected milestones compared to 37% of boys, a significant difference. This is largely due to the significantly lower proportion of girls who are Falling Far Behind (24%) compared to boys (35%).

Figure 4: ELOM 4&5 Total - % On Track, Falling Behind and Falling Far Behind, by gender





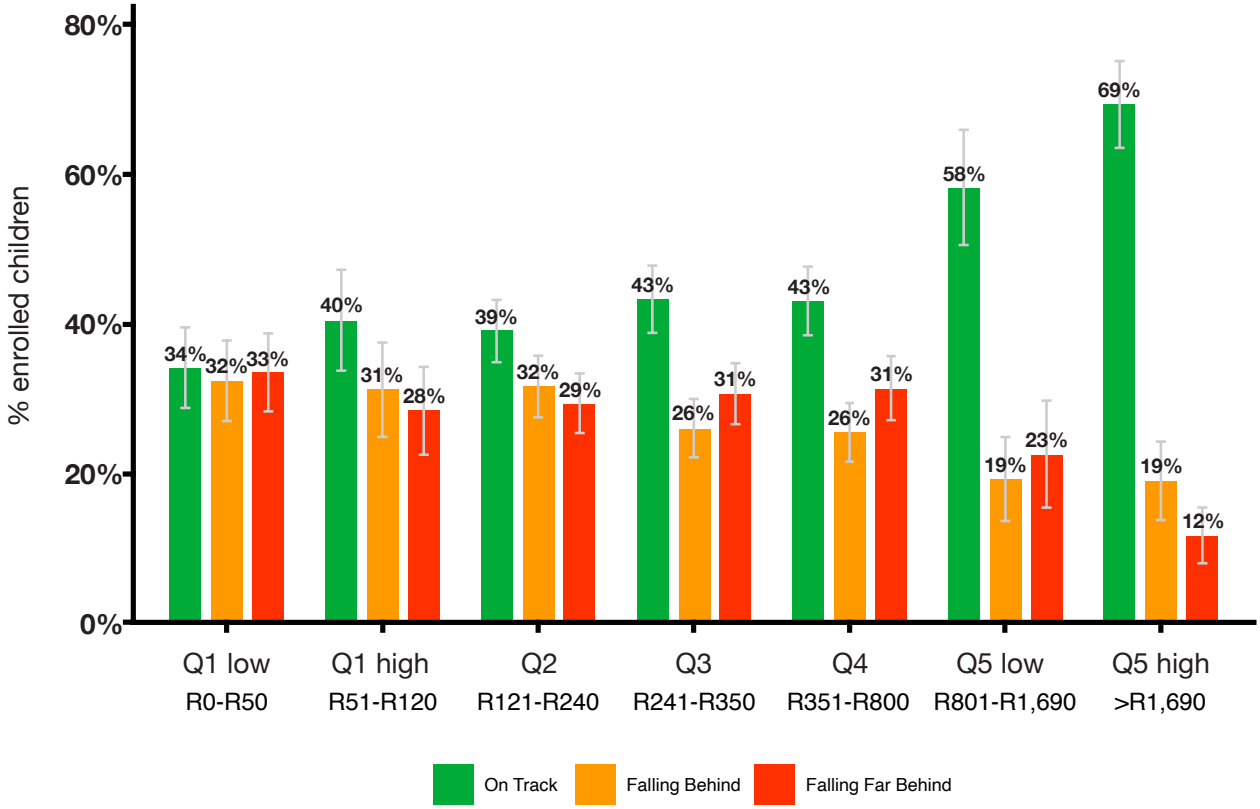
Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.

This gender gap in early learning, explored further in the sections that follow, is consistent across developmental domains (except Gross Motor Development) and may reflect the particular strengths girls bring to the early learning environment, as well as the additional support boys may need during these formative years. These outcomes may also be influenced by differences in teaching styles within ELPs, which could interact with gender in ways that advantage girls' learning.

Differences In Child Outcomes Based On ELP Fee Groupings

Figure 5 below illustrates the performance gradient across the seven ELP fee groups and shows the fee thresholds for each. Only 34% of children attending ELPs charging less than R50 per month (Q1 Low) are On Track, compared to 69% of children attending ELPs that charge more than R1690 per month (Q5 High). The proportion of enrolled children who are On Track remains relatively stable between Q1 High and Q4. These patterns show that children from households able to pay high fees and attending the most well-resourced ELPs, are considerably more likely to enter school equipped with strong foundational learning skills.

Figure 5: ELOM 4&5 Total: % On Track, Falling Behind and Falling Far Behind, by ELP Fees



Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.
Error bars show a 95% confidence interval around the estimates

2x
more children attending the highest fee ELPs are On Track vs. lowest fee ELPs.

4.3 Outcomes per Developmental Domain

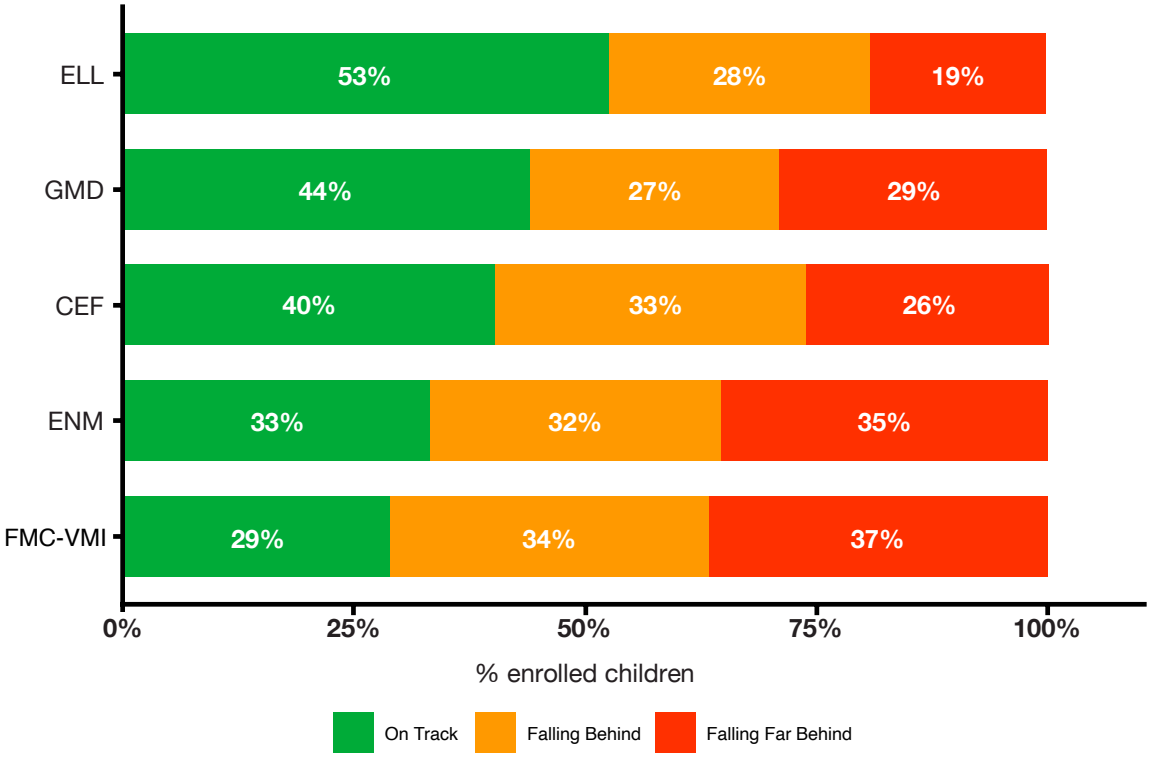
To better understand the drivers of overall developmental performance, this section now turns to the five domains that make up the ELOM 4&5 Total Score. Figure 5 presents the proportion of enrolled children who are On Track, Falling Behind, or Falling Far Behind in each domain.

The percentage of children who are On Track varies considerably across domains, from just 29% in Fine Motor Coordination and Visual Motor Integration (FMC-VMI) and 33% in Early Numeracy and Mathematics (ENM), to 40% in Cognition and Executive Functioning (CEF), 44% in Gross Motor Development (GMD), and 53% in Emergent Literacy and Language (ELL).

These differences highlight relative domain-specific strengths and weaknesses. Although more support is needed across all five domains, additional interventions are required in areas such as fine motor skills and early numeracy.

In the sections that follow, we explore each ELOM 4&5 domain in detail, unpacking their relevance and examining how performance varies by gender and ELP fee levels.

Figure 6: ELOM 4&5 Domains: % On Track, Falling Behind, & Falling Far Behind in each domain



Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.

4.3.1 Gross Motor Development (GMD)

What does this domain measure, and why is it important?

Gross Motor Development (GMD) includes large muscle movements such as running, jumping, balance, and coordination. These skills are foundational for children's physical health, independence, and participation in social activities and play. Strong gross motor skills also support children's cognitive development and overall well-being.

Overall Performance

44% On Track

27% Falling Behind

29% Falling Far Behind

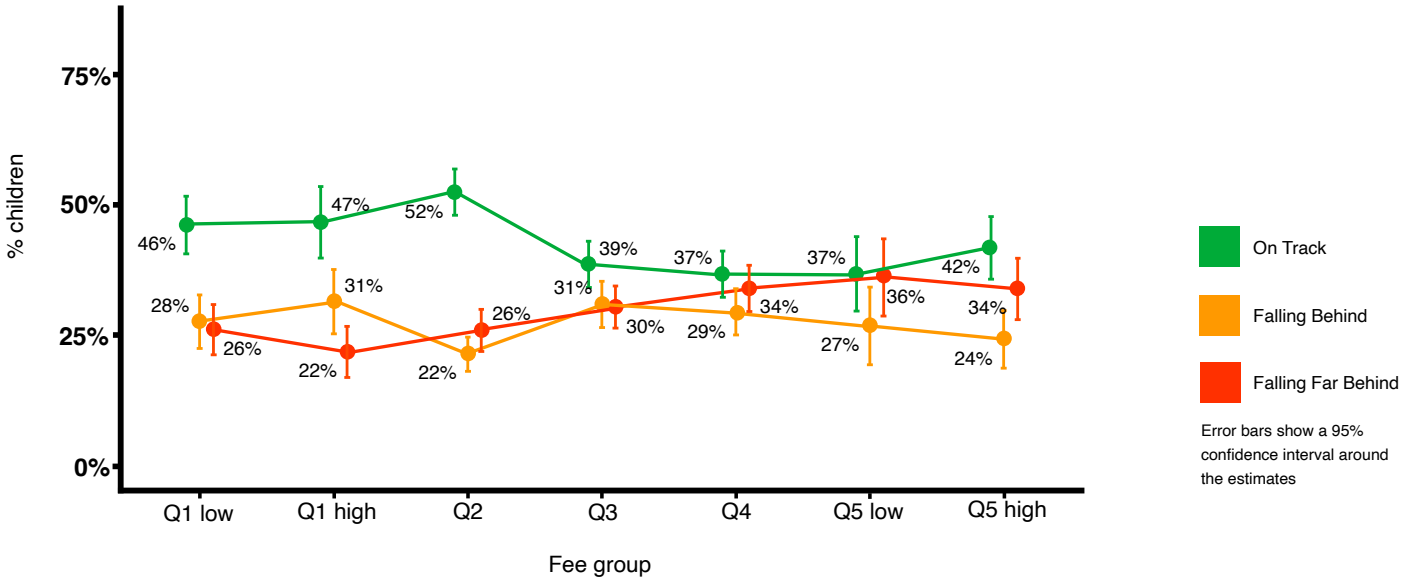
Performance differences by gender:

GMD is unique in being the only domain where boys outperform girls - 46% of boys are On Track compared to 42% of girls. This gender difference aligns with other research that suggests boys tend to outperform girls in GMD [32].

Performance differences by ELP fee level:

GMD is also the only domain in which children attending lower fee ELPs demonstrated better performance compared to those attending higher fee ELPs. The proportion of children On Track was 46% in Q1 Low, 47% in Q1 High, and 52% in Q2, but then dropped by 11 to 16 percentage points in Higher Fee ELPs.

Figure 7: Gross Motor Development outcomes by ELP fees



Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.

4.3.2 Fine Motor Coordination and Visual Motor Integration (FMC-VMI)

What does this domain measure, and why is it important?

Fine Motor Coordination and Visual Motor Integration (FMC-VMI) assesses children's ability to perform precise hand movements, hand-eye coordination, and visually guided motor tasks. FMC skills are essential for activities such as dressing (e.g. doing up buttons or zips), holding a crayon or pencil, drawing, copying shapes and numbers, and learning letters. Strong VMI skills are important for reading and writing and support children's readiness for school and overall cognitive development.

Overall Performance

29% On Track

34% Falling Behind

37% Falling Far Behind

FMC-VMI had the lowest proportion of children On Track among the five ELOM 4&5 domains and the highest proportion Falling Far Behind.

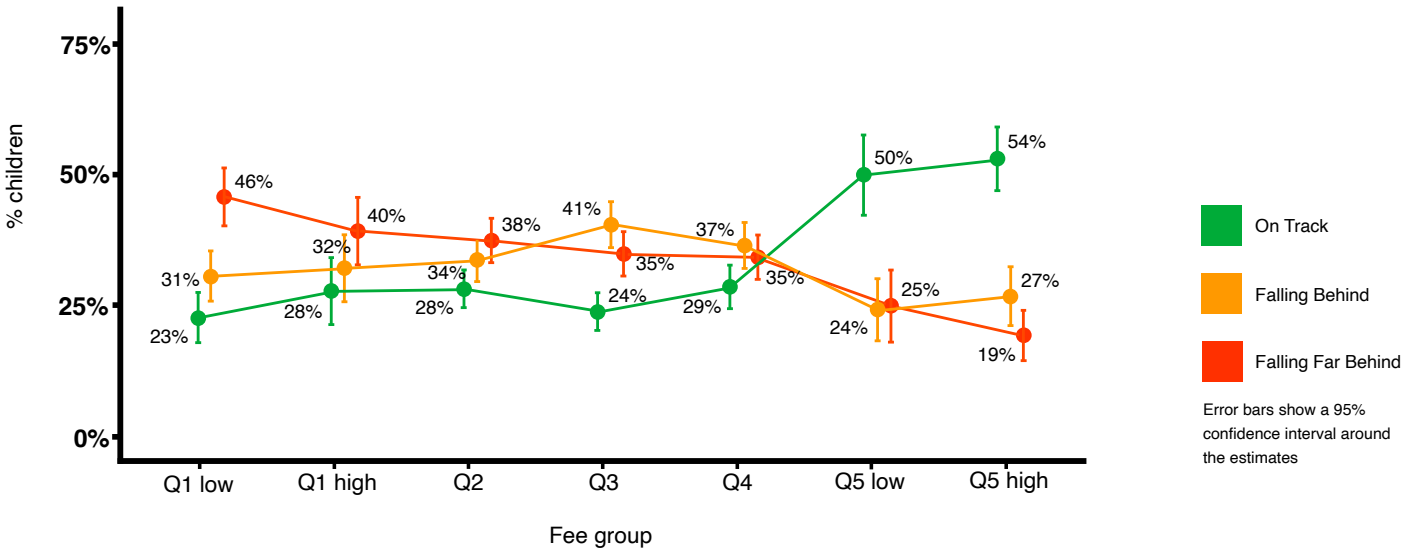
Performance differences by gender:

This domain shows the largest gender gap across the five domains, with a significantly lower proportion of boys (23%) On Track compared to girls (35%). Notably, 43% of boys are Falling Far Behind in FMC-VMI.

Performance differences by ELP fee level:

The ELP fee level is significantly associated with outcomes in FMC-VMI. From Q1 Low to Q4, the proportion of children On Track is consistently low, ranging between 23% and 29%. However, there is a marked increase to 50% in Q5 Low and 54% in Q5 High, underscoring a substantial developmental advantage for children attending ELPs charging the highest fees.

Figure 8: Fine Motor Coordination & Visual Motor Integration outcomes by ELP fees



Source: Weighted estimates based on *Thrive by Five Index 2024* data

Note: Percentages may not total 100% due to rounding.

4.3.3. Emergent Numeracy and Mathematics (ENM)

What does this domain measure, and why is it important?

Emergent Numeracy and Mathematics (ENM) assesses foundational mathematical skills, including number recognition, counting, simple calculations, and understanding basic shapes and patterns. Developing a concrete understanding of numbers in early childhood is important for later mathematical competency and overall cognitive development.

Overall Performance

33% On Track

32% Falling Behind

35% Falling Far Behind

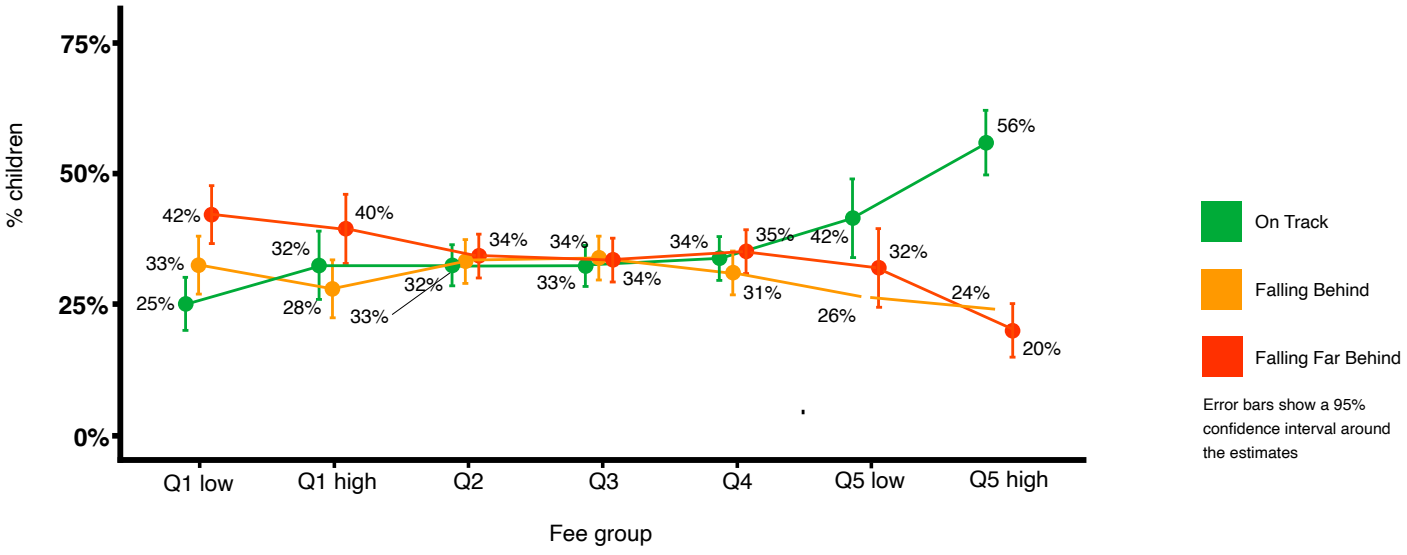
Performance differences by gender:

There is a notable gender gap in ENM performance. The proportion of boys and girls On Track differ by around 8 percentage points (29% of boys vs. 37% of girls). This is mainly driven by differences in the proportion of children Falling Far Behind - 40% of boys compared to 31% of girls.

Performance differences by ELP fee level:

Only 25% of children from Q1 Low are On Track in ENM, rising slightly to 32-34% across Q1 High to Q4. In contrast, performance increases substantially to 42% in Q5 Low and further to 56% in Q5 High. Of concern is the fact that over 40% of children in Q1 are Falling Far Behind the expected standard for ENM.

Figure 9: Emergent Numeracy and Mathematics outcomes by ELP fees



Source: Weighted estimates based on *Thrive by Five Index 2024* data

Note: Percentages may not total 100% due to rounding.

4.3.4. Cognition and Executive Functioning (CEF)

What does this domain measure, and why is it important?

Cognition and Executive Functioning (CEF) assesses children's abilities in areas such as memory, attention, planning, problem-solving, and impulse control. These cognitive skills are essential for effective learning, social engagement, emotional regulation, and readiness for formal schooling. Strong CEF abilities enable children to manage tasks, follow instructions, and adapt to new or challenging situations. Research has shown that CEF is predictive of later academic performance, particularly in mathematics and reading [33].

Overall Performance

40% On Track

33% Falling Behind

27% Falling Far Behind

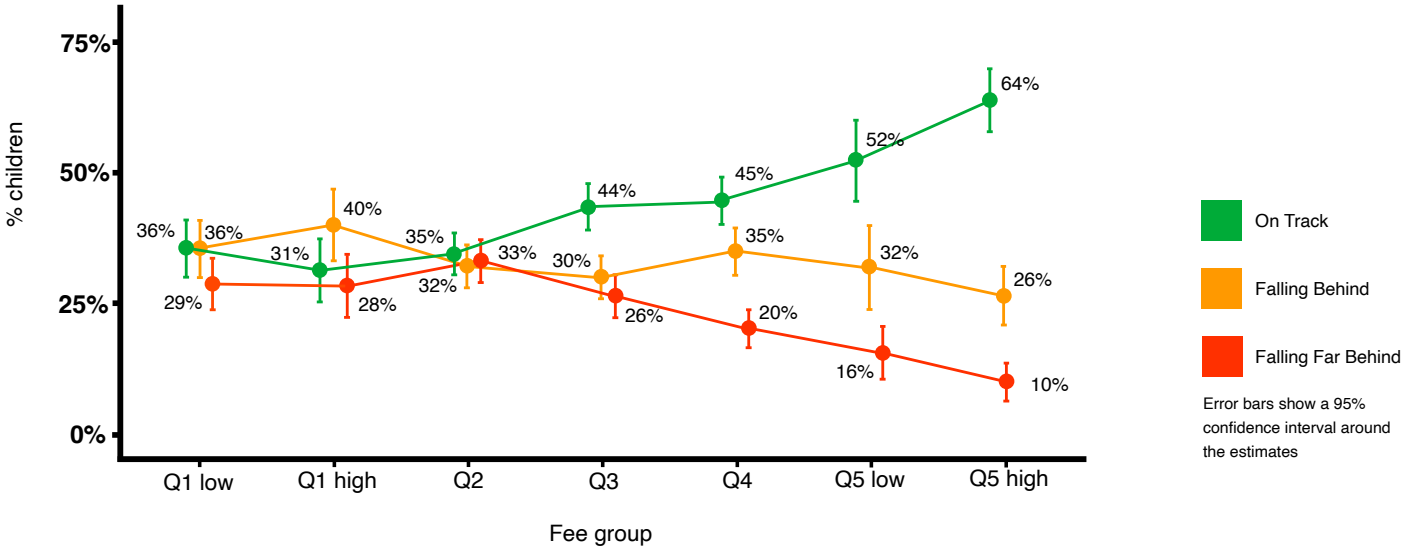
Performance differences by gender:

Consistent with trends observed across other domains, girls outperform boys in CEF, with 45% of girls On Track compared to only 36% of boys.

Performance differences by ELP fee level:

The relationship between ELP fee level and performance in CEF is particularly pronounced. While there is an initial decline in the proportion On Track from Q1 Low to Q1 High, this proportion increases steadily thereafter—from 31% in Q1 High to 35% in Q2, 44% in Q3, 45% in Q4, 52% in Q5 Low, and reaching 64% in Q5 High. The stark contrast is further highlighted by the proportion Falling Far Behind, which is nearly three times higher in Q1 compared to Q5 High.

Figure 10: Cognition and Executive Functioning outcomes by ELP fees



Source: Weighted estimates based on *Thrive by Five Index 2024* data

Note: Percentages may not total 100% due to rounding.

4.3.5. Emergent Literacy and Language (ELL)

What does this domain measure, and why is it important?

Emergent Literacy and Language (ELL) assesses the child's ability to communicate effectively. This includes their ability to speak in full sentences, recognise the initial sounds of words, name common objects, relay events and listen to and understand stories told to them. These skills form the basis for effective communication, directly influencing children's ability to succeed in educational environments and social interactions.

Overall Performance

53% On Track

28% Falling Behind

19% Falling Far Behind

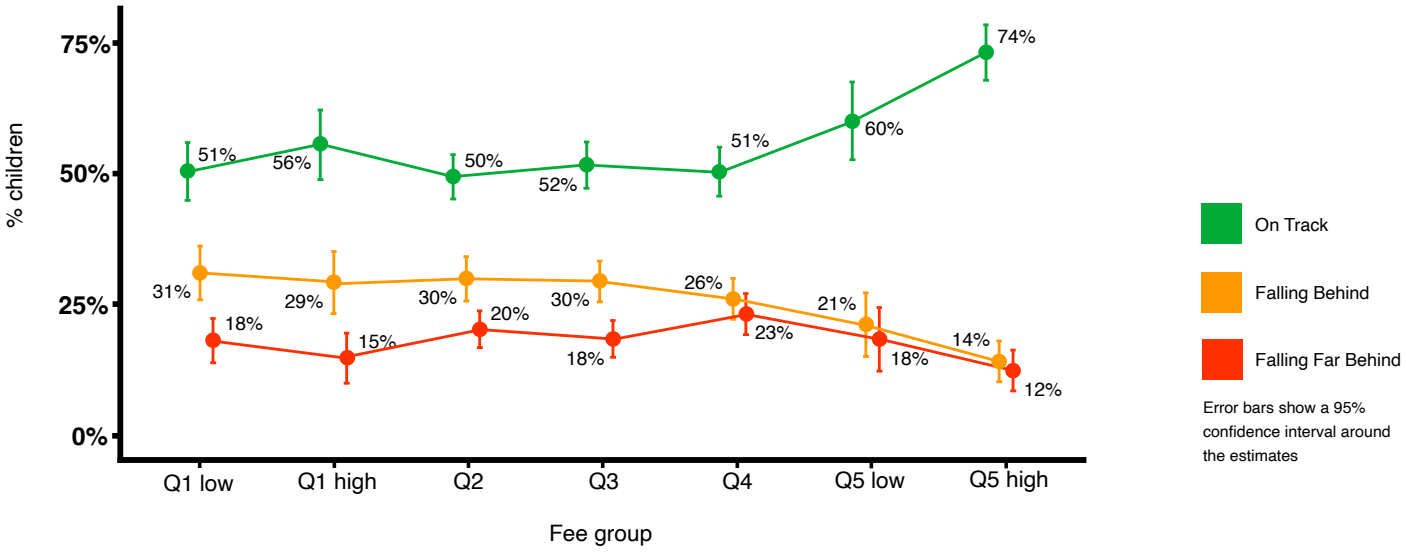
Performance differences by gender:

Despite stronger overall performance on this domain, a notable gender gap persists in ELL, with 57% of girls On Track compared to 48% of boys.

Performance differences by ELP fee level:

The ELP fee gradient for ELL is relatively flat across the lower- and middle-fee groups, with the proportion of children On Track ranging between 51% and 56% from Q1 Low through Q4. However, similar to other domains, a significant jump occurs beyond Q4, with proportions rising to 60% in Q5 Low and peaking at 74% in Q5 High.

Figure 11: Emergent Literacy and Language outcomes by ELP fees



Source: Weighted estimates based on *Thrive by Five Index 2024* data

Note: Percentages may not total 100% due to rounding.

The observed **gender differences** across domains raise important questions about how gender perceptions may be shaping teaching practices and influencing the types of activities that children are encouraged to engage in. The performance pattern across the **ELP fee groups** highlight persistent inequities in access to the resources and opportunities that support optimal and holistic development in young children.

Disparities point to the enduring impact of poverty on early learning outcomes. These findings strongly underscore the need for targeted interventions to foster inclusive, gender-responsive pedagogies and to mitigate socio-economic disadvantage in early learning settings.

Results show the enduring impact of poverty on learning outcomes.

4.4. The Importance of Task Orientation in Assessments

After each child completed the ELOM 4&5 assessment, the assessor provided a subjective rating on how the child approached the tasks. Four questions were used that focused on whether the child:

- Paid attention throughout
- Stayed focused and on task
- Worked carefully and tried to do well
- Showed curiosity and interest in the tasks.

Each of these behaviours was rated on a four-point scale: Almost Never, Sometimes, Often, and Almost Always. These four observations were highly and significantly correlated with one another. Because of this, they were combined into a single Task Orientation Score, ranging from 0 to 12. This score gives a useful overall picture of how the child managed the assessment process. It should be noted that this is to some extent a subjective measure with some variation in assigned scores due to assessors.

The analysis shows a strong link between the child's behaviour during the assessment and their developmental outcomes. Children who were more engaged during the assessment, who paid attention, concentrated, and showed interest, scored significantly higher on the overall ELOM 4&5 measure.

This finding highlights the importance of children's Task Orientation, their ability to focus, persist, and take interest in learning activities (often referred to as self-regulation skills). These are not just traits that help with testing; they are foundational to learning itself. For early learning practitioners and programme designers, this underscores the value of building classroom environments that nurture these behaviours: providing engaging, well-structured activities, encouraging curiosity, and offering positive feedback for sustained effort. In short, helping children develop the ability to engage meaningfully with tasks and ensuring conducive conditions for learning and assessment can significantly boost early learning outcomes, even in the face of other challenges.

4.5. Comparison of Learning Outcomes: 2021 vs 2024

The *Thrive by Five Index* aims to track the developmental progress of young children in South Africa over time by comparing data across surveys.

In the two rounds of the *Index* - 2021 and 2024, the following similarities are observed:

- The overall pattern of performance across ELOM 4&5 domains is consistent across 2021 and 2024, where the lowest proportions of On Track children are observed in FMC-VMI and ENM, and the highest in ELL.
- Girls outperform boys across all domains of the ELOM 4&5 assessment, except GMD, where boys are more likely to be On Track.
- Similarly, children attending Higher Fee ELPs perform better than those in Lower Fee ELPs across all domains except GMD. The largest gaps are seen in FMC-VMI, ENM and CEF, domains that appear especially sensitive to resource-related disparities.

These consistent findings underscore the enduring influence of gender and socio-economic factors on early learning outcomes.

Determining whether there has been a **statistically significant change** in the percentage of children who are developmentally On Track between the 2021 and 2024 rounds requires alignment of the two samples (for more details on sampling, see the *Thrive by Five Index 2024 Technical Report* on the **website**).

A statistical method known as entropy balancing was used to enable a more appropriate comparison between the 2021 and 2024 data. This preliminary approach reweights the 2021 sample to more closely mirror the 2024 sample across a range of observed characteristics, including child age and gender, ELP infrastructure, and registration status. Unlike basic matching methods, entropy balancing aligns the mean, variance, and skewness of these variables, enhancing comparability while preserving the full sample size from the earlier round.

After applying entropy balancing to improve comparability between the two rounds, preliminary findings suggest **no significant difference in ELOM 4&5 domain scores over time,** but a modest decline in overall early learning outcomes between 2021 and 2024.

These findings must be interpreted with some caution, as this approach only accounts for observable factors and recorded differences. The 2021 round of the *Thrive by Five Index* was conducted during the **COVID-19 pandemic**, a period of significant disruption in the ECD sector. *This cannot be accounted for in the matching process.* Lockdowns, financial strain, and health-related closures led to sharp declines in ELP enrolment, most likely among lower-income households and in lower fee programmes. As a result, part of the observed difference in *Index* outcomes between 2021 and 2024 may reflect a shift in who is being assessed, rather than true changes in developmental performance across the broader child population.

Implication: The *Thrive by Five Index 2024* should be considered the baseline for this repeat cross-sectional study, and its results will be directly comparable to future *Index* rounds.

05 Growth Outcomes - Enrolled Children

5.1. Measuring Child Growth

The Growth domain assesses children's height relative to their age to identify signs of stunting. Stunting is when a child is too short for their age, based on international growth standards. It usually happens when children don't get the nutrition, care or health support they need, especially in the first 1,000 days of life (from conception to age two). Early detection of growth faltering and holistic intervention for children who show signs of stunting are critical to improving their nutritional status and enhancing overall developmental outcomes.

Children's height was measured using a portable stadiometer placed on a level surface to ensure accuracy. Enumerators used a board beneath the stadiometer and a 1-metre spirit level to confirm that the surface was flat and stable, particularly in ELPs with uneven flooring. Each child's height was measured twice, and if the two measurements differed beyond more than 0.3 centimetres, a third measurement was taken.

The World Health Organization (WHO) defines growth in children using standard deviations (SD) from the median of a healthy reference population [35][5], based on the WHO Child Growth Standards. Here is how it works: The median height represents the typical height for a given age and gender in a healthy reference population. Each child's height is compared to this standard, and their result is expressed as a height-for-age Z-score (HAZ score), indicating how many standard deviations they are above or below the median. Based on these HAZ scores, children are classified in categories that reflect their growth status – normal growth, moderately stunted or severely stunted.

Table 10: World Health Organization height-for-age categories

Category	World Health Organization definition
Normal Growth	Height-for-age is between -2 SD and +2 SD from the WHO Child Growth Standards median. Within this 'normal' range, a subcategory of **Mild Stunting** is defined as height-for-age between - 1 and - 2 standard deviations from the WHO Child Growth Standards median
Moderate Stunting	Height-for-age is between -2 and -3 SDs from the WHO Child Growth Standards median.
Severe Stunting	Height-for-age is >-3 SDs from the WHO Child Growth Standards median.

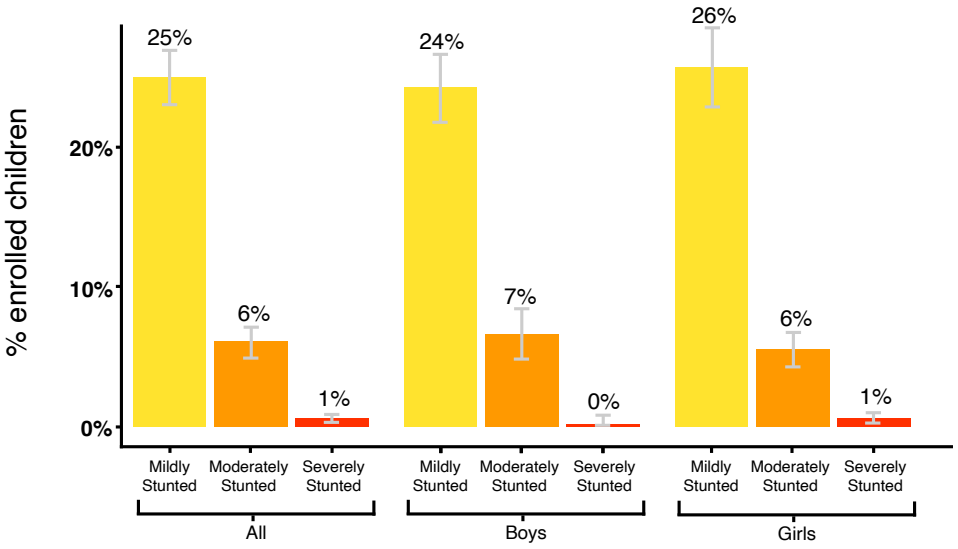
[5] While the use of a standardised approach, such as the WHO Child Growth Standards, enables consistent international comparisons, it is not without limitations [36]. As an example, there is an argument that locally derived, population-specific growth references may offer greater relevance for monitoring and addressing stunting within a specific country context [37]. For the purposes of this report, the WHO standard has been retained to ensure comparability with other studies, but we acknowledge that there are potentially valid critiques of this approach.

5.2. Stunting Rates in Enrolled Children

Close to 7% of enrolled children were moderately or severely stunted, and another 25% exhibited signs of mild stunting. No significant differences in growth status were observed between boys and girls.

7%
of enrolled children were moderately or severely stunted

Figure 12: Stunting rates in enrolled children overall and by gender



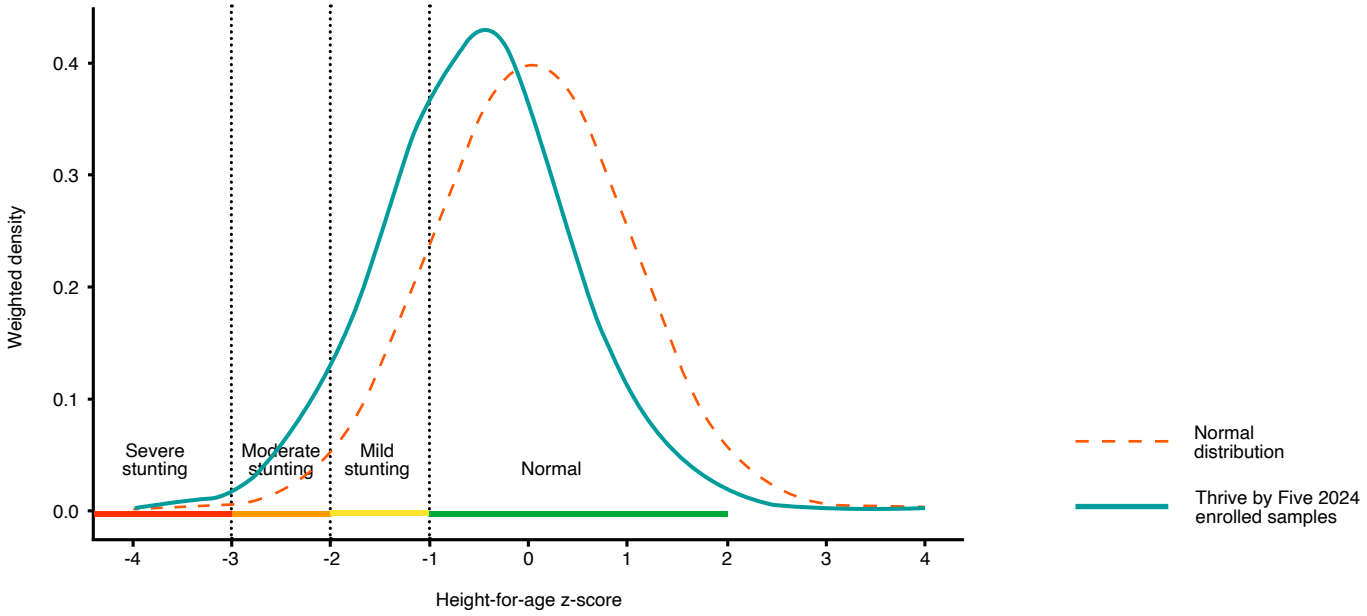
Source: Weighted estimates based on *Thrive by Five Index 2024* data

Across the ELP fee groups, stunting rates were lowest amongst children in Q5 high (3%), with no children being severely stunted. Interestingly, the highest stunting rates were recorded in Q2 (10%) and Q3 (8%), not in Q1 (5%)[6]. This will be explored further in a separate piece of analysis.

Figure 13 shows the distribution of the standardised height-for-age Z-scores[7] for this sample (solid line). The dotted line shows the normal distribution you would expect in a healthy population of children [35]. The curve of the *Thrive by Five Index* sample falls mostly to the left of 0, indicating that the majority of children in the *Index* sample are shorter for their age than the global median.

[6] Important to note: When we measure children's height, we do expect a natural range, some children will be shorter than average, and some taller. If we plot all their heights on a graph, we get a "bell curve" or normal distribution: most children are near the average, and fewer children are at the extremes (very short or very tall). In any group of healthy children, even without any nutritional problems, there will still be some who fall in the bottom end of the curve, just because of natural variation.
[7] HAZ scores were calculated in Stata, version 17 using the zanthro package according to the WHO Child Growth Charts and WHO Reference 2007 Charts.

Figure 13: Weighted density plot for height-for-age Z-scores



Source: Weighted estimates based on *Thrive by Five Index 2024* data

5.3. Interpreting Stunting Data

When compared to other national sources, the *Thrive by Five Index's* finding of a 7% stunting rate is notably lower. The 2016 South African Demographic and Health Survey (DHS) reported a stunting rate of 27% among children aged 0–5 years, while the 2021–2023 National Food and Nutrition Security Survey estimated stunting at 29% for 0–5-year-olds. Several factors contribute to the lower stunting rate observed in the *Index* sample. The most significant of these relate to (1) **ELP enrolment** and (2) **age differences in the cohorts**, both of which are explored below.

The role of ELP enrolment

All children included in the main *Index* sample were enrolled in ELPs, which is often not the case in stunting surveys, a distinction that is both significant and consequential. Lower stunting rates among children enrolled in ELPs partly reflects selection bias: children from better-off households, who are less likely to be stunted, are on average more likely to attend ELPs. However, there are also some protective effects associated with ELP attendance, such as access to regular meals and improved hygiene practices.

That enrolled children are on average less likely to be stunted than their non-enrolled peers aligns with findings from other South African studies. A 2023 community-based survey conducted by Grow Great [38] across seven of the country's most food-insecure districts, involving over 3,000 children aged 0–5 years, reported an average stunting rate of 18%. Among 4-year-olds specifically, the average stunting rate was somewhat lower at 12%, and children enrolled in ELPs were significantly less likely to be stunted than those not enrolled. Similarly, analysis of National Income Dynamic Survey (NIDS) data shows that children who attend pre-primary education have stunting rates that are, on average, lower than those who do not attend. This difference is statistically significant across NIDS waves 3, 4, and 5 (from 2012 onwards) [39].

Age-growth recovery and the masking of early malnutrition

Age is a second critical factor in interpreting stunting data, as stunting prevalence typically declines with age due, in part, to catch-up growth. For example, within the DHS dataset, restricting the sample to children aged 50–59 months yields an estimated stunting rate of 16%, 11 percentage points lower than the 27% rate for children aged 0–5 years [39].

Both local and international studies provide evidence of catch-up growth between infancy and age five. Findings from the National Income Dynamics Study (NIDS) [40] and the Birth to Twenty Cohort Study [41], [42] show significant recovery during early childhood. Similarly, the Young Lives study, conducted across four Low- and Middle-Income Countries (LMIC), found that between 27% and 40% of children who were stunted at 12 months were no longer stunted by age five [43].

However, physical catch-up can obscure the long-term impacts of early undernutrition. While most studies focus only on moderate and severe stunting, Stevens et al [44] stress that "the hazardous effects of undernutrition happen along a continuum of mild, moderate, and severe undernutrition". Mild stunting, often overlooked, may still have serious developmental implications. The NIDS study reinforces the importance of paying attention to this group. Casale (2020) found that children with mild stunting at 4-5 years performed significantly worse on education indicators such as grade completion and failure, compared to children who were never stunted.

This evidence highlights the importance of considering all three levels of stunting severity: mild, moderate, and severe, when assessing potential impacts of malnutrition on learning outcomes. It also underscores a key limitation of commonly reported stunting rates for children aged 0–5 years: such aggregated figures can obscure important age-specific patterns.

The section that follows explores the relationship between stunting and learning outcomes, incorporating all three categories of stunting - mild, moderate, and severe - to provide a more nuanced understanding of how growth faltering may impact early developmental outcomes.

5.4. How Stunting Affects Learning

Stunting is not just about height. It is a sign that a child's body and brain may not be developing as they should. This is a serious concern because stunted children are more likely to struggle with learning, experience frequent illness, and face long-term challenges such as lower school achievement and reduced earning potential [45].

To understand how children's physical growth relates to their learning outcomes in this study, statistical models were used to examine the relationship between growth status and children's overall performance on the ELOM 4&5 Assessment (ELOM 4&5 Total Score). The analysis used mixed-effects linear models, a statistical approach that helps to more accurately measure this relationship by accounting for the fact that children attending the same early learning programme or living in the same community may have similar scores due to shared factors. These shared factors might include teacher quality, classroom resources, or broader community conditions.

The statistical models also controlled for other important factors known to influence children's learning outcomes, such as gender, age, ELP fees, and social-emotional functioning.

After controlling for these factors, the results clearly show that stunting in early childhood is significantly associated with lower ELOM 4&5 Total Scores - even children with mild stunting show measurable learning lags. By the age of four years, moderately or severely stunted children are on average five months behind their non-stunted peers when it comes to early learning. Mildly stunted children are approximately two months behind.

Importantly, it is possible for children who experience early stunting to recover lost height and developmental potential, under the right conditions. Studies have documented that improvements in nutrition, health care, responsive caregiving, and learning environments during the early years can partially reverse the negative impacts of early stunting on physical and cognitive development [46], [47], [48]. In this context, ELPs can play a vital role in supporting young children's nutritional recovery and broader well-being.

5.5. Leveraging Preschools for Nutrition and Health

Among the ELPs, 90% reported providing at least one meal a day to enrolled children. Encouragingly, Lower Fee ELPs are more likely to provide both breakfast and lunch, offering crucial support to children most at risk of nutritional deprivation. However, unlike public primary and secondary schools, there is no nationally funded feeding scheme for ELPs. Most meals are provided at the expense of ELP operators themselves, often under significant financial strain and with very limited resources.

Preschools also serve as crucial access points for delivering essential health services to young children, particularly in contexts where traditional healthcare channels face barriers. Over 60% of principals reported that the Department of Health (DoH) had delivered immunisation services (65%), deworming (61%), and Vitamin A supplementation (60%) at their ELPs within the past two years. These interventions indicate that preschools are effective platforms for extending health coverage to young children, helping bridge gaps, especially for underserved populations.

Other studies have found similarly that health outreach programmes embedded in early childhood education settings in South Africa demonstrate significant potential to advance universal coverage of basic health interventions [49], [50], [51], [52].

Encouragingly, the *Index* data also highlight the effective implementation of pro-poor targeting in health outreach programmes within ELPs. While there remains room for improvement, preschools with lower fees (Bottom 80%) are significantly more likely to report visits from DoH for health screenings such as vision (19% in Lower Fee ELPs vs 9% in Higher Fee ELPs) and hearing (17% vs 10%).

06 Social-Emotional Functioning - Enrolled Children

6.1. Measuring Social-Emotional Functioning

The Social-Emotional Functioning (SEF) Rating Scale is designed to complement the ELOM 4&5 Assessment by capturing important aspects of a child's social and emotional development. Because an unfamiliar observer cannot reliably assess these behaviours, the SEF Rating Scale is completed as a questionnaire by someone who knows the child well, in this case, the child's preschool teacher (practitioner).

The SEF Rating Scale evaluates two main areas, with children's scores categorised as either Meet the Standard (indicating the child performs at the expected level for their age) or Don't Meet the Standard:

- **Social Relations with Peers and Adults:** This includes abilities such as cooperating independently, participating effectively in group activities, resolving conflicts without aggression, and comfortably seeking support, assistance, or information from familiar adults.
- **Emotional Readiness for School:** This encompasses skills such as effectively communicating with adults, appropriately expressing needs and emotions, demonstrating independence, adapting to changes in routine at home or school, showing confidence in new situations, and initiating activities.

The SEF Rating Scale is a simpler and less nuanced tool than the ELOM 4&5 Assessment. It relies on practitioner observations and general impressions of a child's social-emotional functioning, rather than direct, structured assessment tasks. As a result, it may be more susceptible to subjectivity and less sensitive to subtle differences in children's development.

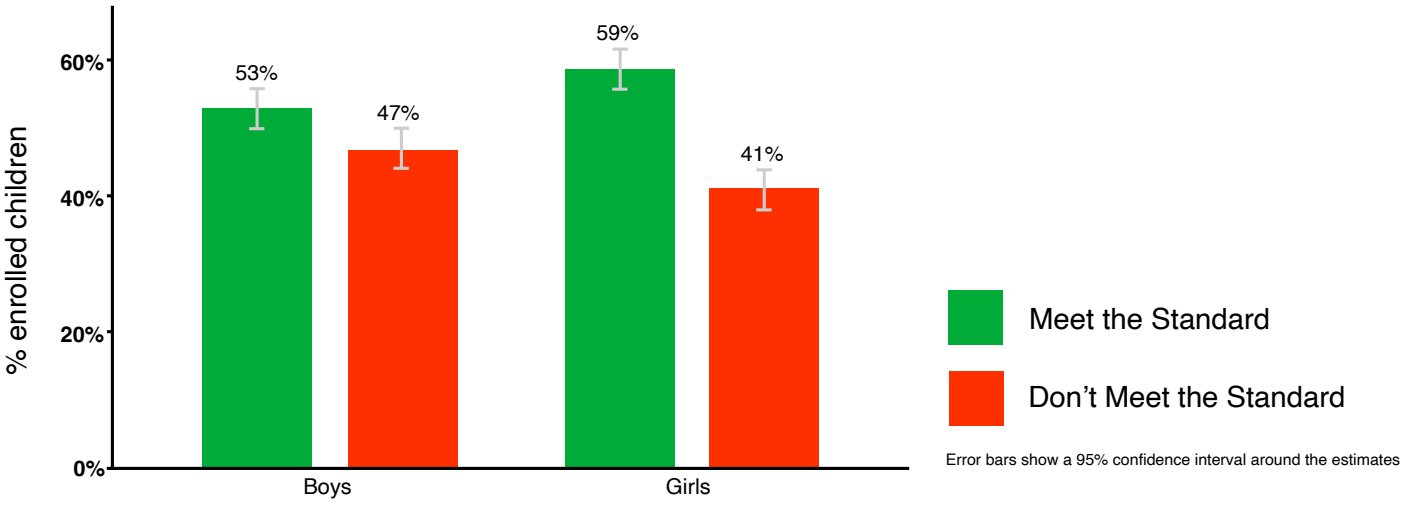
6.2. Social-Emotional Functioning Outcomes

Overall, 56% of children Meet the Standard for Emotional Readiness, while 63% Meet the Standard for Social Relations with Peers and Adults. Girls are more likely than boys to Meet the Standard in both areas.

56%
of enrolled children Meet the Standard for Emotional Readiness.

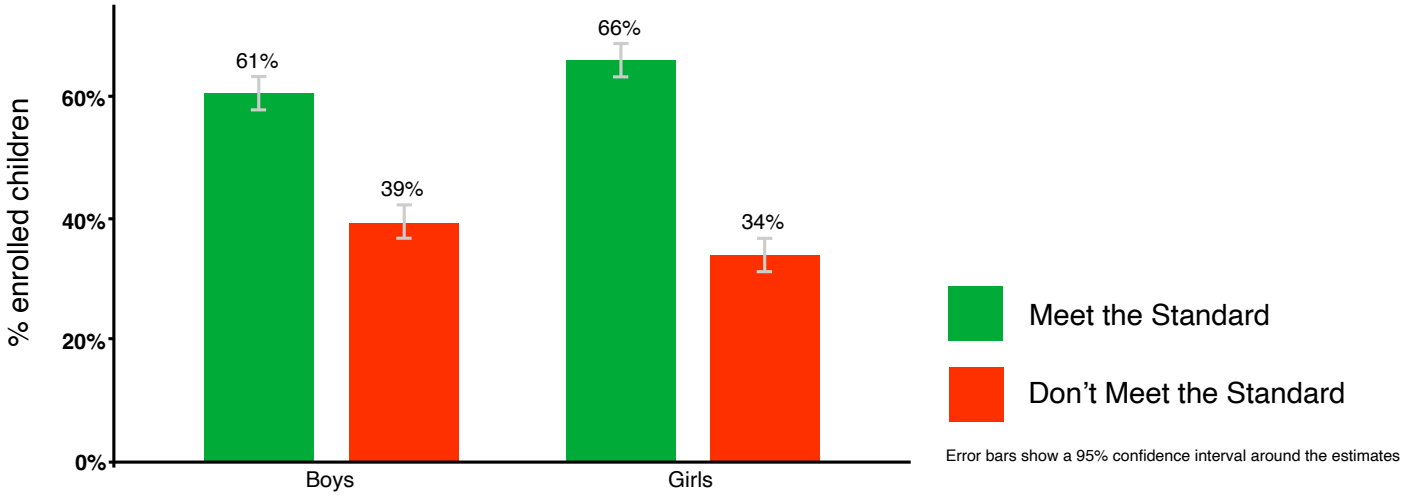
63%
of enrolled children Meet the Standard for Social Relations.

Figure 14: % Children that Meet the Standard for Emotional Readiness, by gender



Source: Weighted estimates based on *Thrive by Five Index 2024* data

Figure 15: % Children that Meet the Standard for Social Relations, by gender



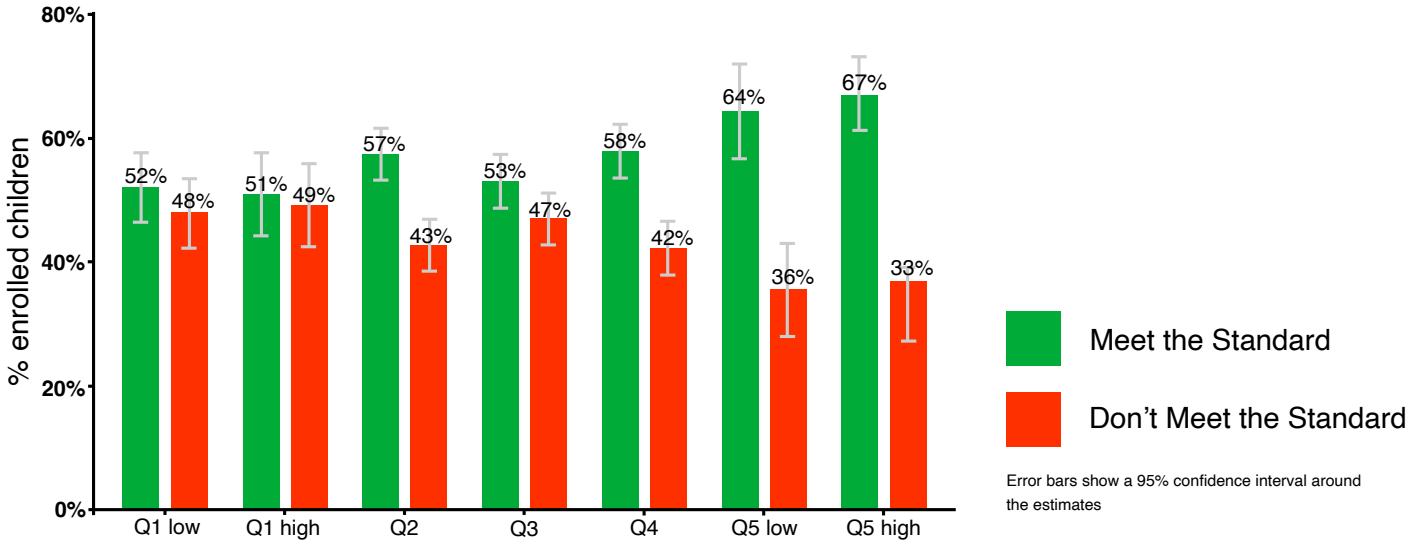
Source: Weighted estimates based on *Thrive by Five Index 2024* data

Developing strong social and emotional skills is crucial for preschool children, helping children build positive relationships, adapt to new environments, manage emotions constructively, and foster resilience.

Performance differences by ELP fee level

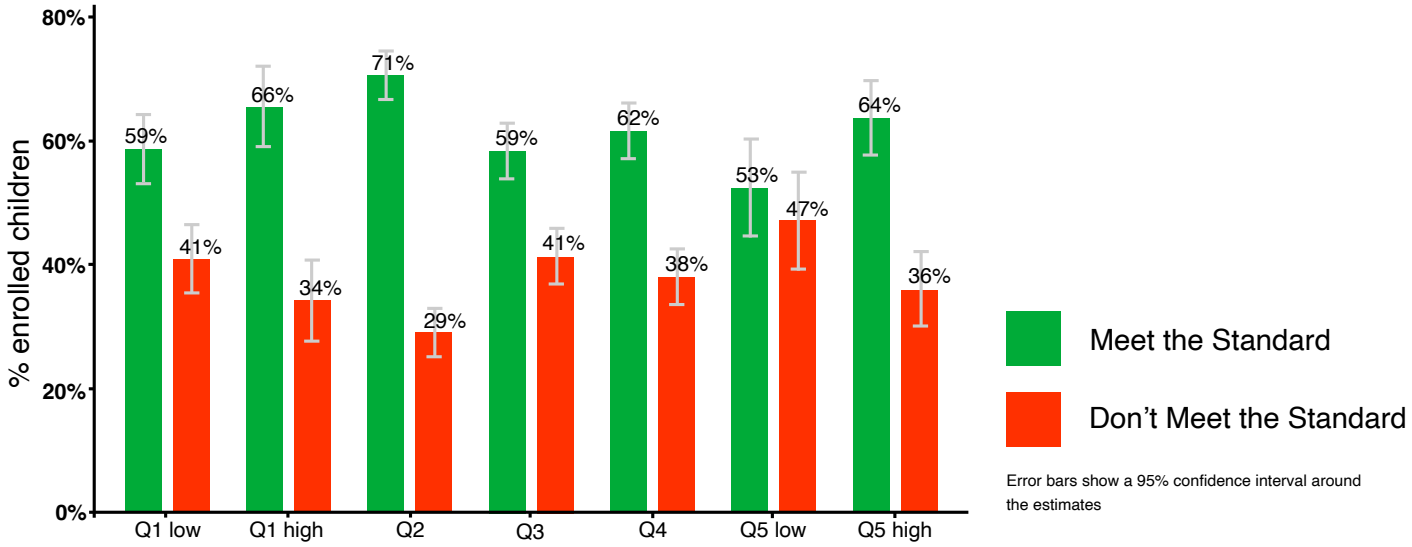
The association between ELP fee levels and child outcomes is weaker for SEF than for the ELOM 4&5 learning domains. The graphs below show results across the seven ELP fee groups. For Emotional Readiness, children in Q5 (Low and High) are the most likely to Meet the Standard; for Social Relations, children in Q2 show the highest likelihood. Further research is needed to more fully understand these patterns.

Figure 16: Emotional Readiness for school



Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.

Figure 17: Social Relations with Peers and Adults



Source: Weighted estimates based on Thrive by Five Index 2024 data
Note: Percentages may not total 100% due to rounding.

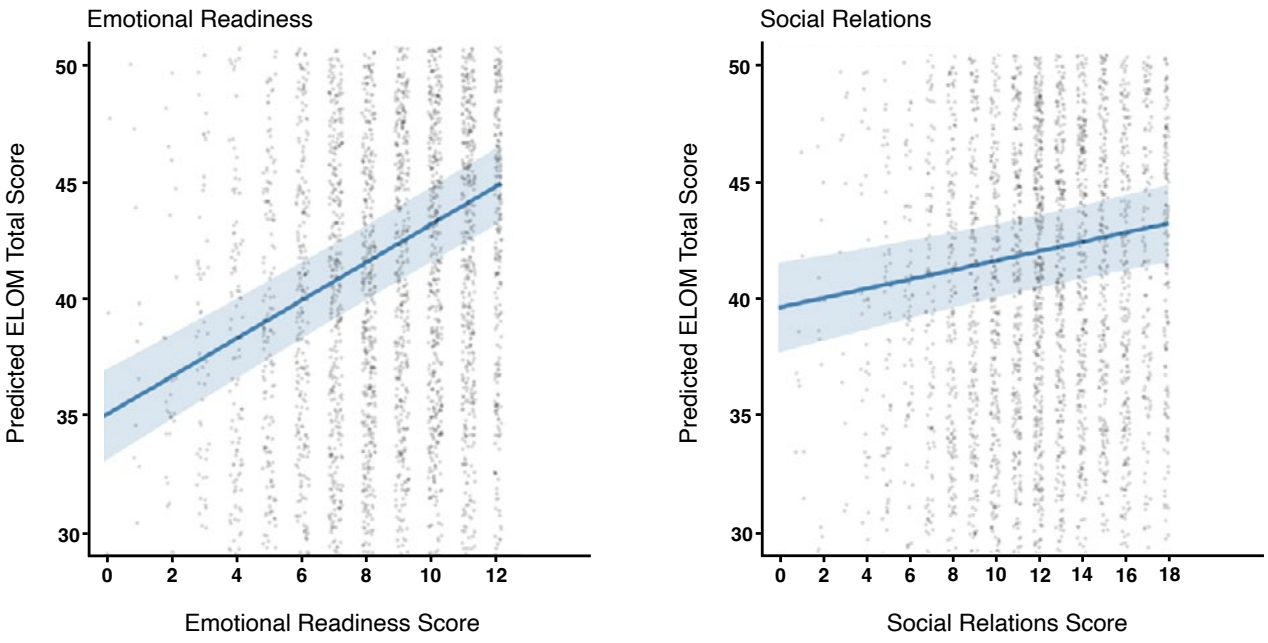
6.3. How Social-Emotional Skills Support Early Learning

Children's social and emotional functioning plays an important role in shaping their learning outcomes. To explore this relationship, the analysis examined how both components, Emotional Readiness and Social Relations, relate to children's overall performance on the ELOM 4&5. A mixed-effects linear model was applied, controlling for factors including gender, age, ELP fees, physical growth status and the quality of the assessment setting. Both Social Relations and Emotional Readiness scores were significant predictors of ELOM 4&5 performance, with Emotional Readiness emerging as the stronger predictor.

Figure 18 illustrates these findings by showing average predicted ELOM 4&5 Total Scores across the full range of SEF scores. The steeper slope of the line for Emotional Functioning highlights its comparatively stronger association with learning outcomes.

It is important to note that observations are sparse at the lower ends of both SEF measures. Only about 3% of children have Emotional Functioning scores of three or below, and about 6% of children have Social Relations scores of six or below. This means that model predictions in these lower ranges are less certain.

Figure 18: Average predicted ELOM 4&5 Total Score by SEF Rating



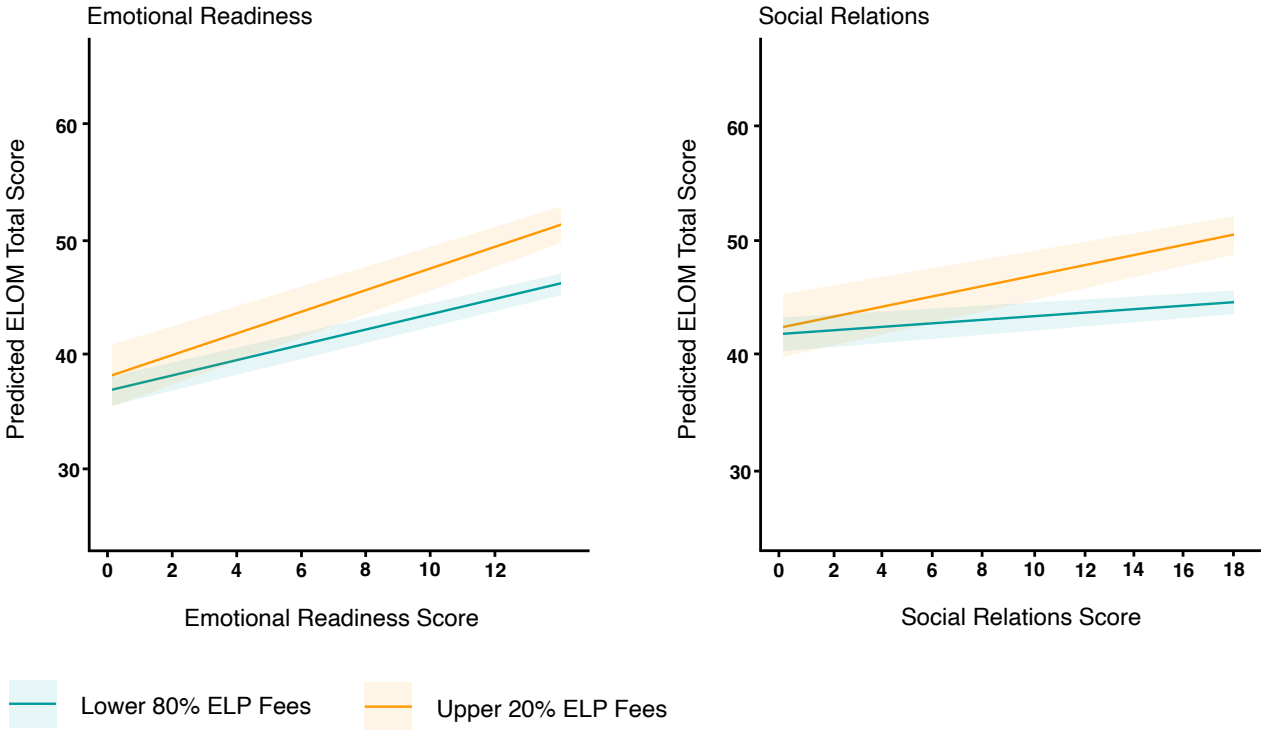
Dots show observed values.
Shaded areas show the 95% confidence interval.
Predictions are calcualted with all continuous variables at their mean values and assuming childrenn have Normal growth status, are boys, and are in the lowest fee group (Q1 low).

Source: Weighted estimates based on *Thrive by Five Index 2024* data

These findings underscore the critical role of social-emotional functioning in early learning. Building on this, the analysis examined whether the relationship between SEF and learning outcomes varies across ELP fee levels.

Both Emotional Readiness and Social Relations are more strongly associated with better learning outcomes among children attending Higher Fee ELPs than for children attending Lower Fee ELPs. These interactions are statistically significant (Emotional Functioning *p = 0.023* and Social Relations *p = 0.007*). This suggests that children in better-resourced programmes gain more learning benefits from the same levels of social-emotional competence. Importantly, this is not because children in wealthier ELPs have higher SEF scores - ELP fee group is not a statistically significant predictor of Emotional Readiness score or Social Relations score. It is most likely that children in higher fee ELPs are in environments that are better equipped to respond to and build on these skills.

Figure 19: Average predicted ELOM 4&5 Total Score by SEF Rating, comparing Fee Levels



Shaded areas show the 95% confidence interval.
Predictions are calcualted with all continuous variables at their mean values and assuming childrenn have Normal growth status, are boys, and are in the lowest fee group (Q1 low).

Source: Weighted estimates based on *Thrive by Five Index 2024* data

For practitioners and programme designers, these findings carry an important message: *children from lower-income settings may not be reaping the full developmental benefits of their social-emotional skills.* Addressing this gap means designing classrooms that deliberately recognise, reinforce and extend these skills as part of everyday practice.

Encouragingly, a 2023 Positive Deviance study [53] of Lower Fee ELPs that beat the odds on ELOM 4&5 scores show what this can look like in practice. In these high-performing ELPs, staff made social-emotional development a daily priority despite scarce resources - building warm, predictable routines, using specific praise and guided play to teach cooperation, and weaving lessons on turn-taking, greeting and emotion-sharing into ordinary activities. Their success offers a practical blueprint for turning children's existing social-emotional strengths into broader learning gains, even in under-resourced contexts.

6.4. Practitioner Ratings of Children's Behaviour

To complement direct assessments and the SEF Rating Scale, the children's practitioners were asked to rate each child's typical behaviour in the classroom using a short set of questions designed to capture two key behavioural attributes: the child's ability to follow instructions (for example, following the rules at the ELP) and their ability to focus on tasks (for example, finishing a task they started). Practitioners responded using a three-point scale: "Often", "Sometimes" or "No".

The items in both sets of questions show statistically significant associations with children's ELOM 4&5 Total Scores, although to varying degrees. Overall, children who are rated as more focused and better at following instructions tend to score higher on the ELOM 4&5.

To better understand these relationships, the analysis combines the individual items into two composite indicators: a **Task Focus Score** and a **Follow Instructions Score.** These scores are used as predictors in a mixed-effects linear model, which accounts for other factors such as child gender and age, ELP fees, child growth status, and social-emotional functioning.

- The Task Focus Score shows a strong and statistically significant positive relationship with the ELOM 4&5 Total Score. This highlights the importance of a child's ability to sustain attention, avoid distractions, and complete tasks in the classroom.
- The Follow Instructions Score also shows a significant, albeit slightly weaker, association with ELOM 4&5 performance.

These findings suggest that capturing practitioners' ratings of children's everyday behaviours can provide useful supplementary insight into children's developmental readiness. This is especially important in areas such as attention regulation and self-control, which play an important role in supporting learning.

07 Early Learning Programme Quality and Child Outcomes

Early Learning Programmes (ELPs) can play a critical role in shaping children's development by fostering foundational skills, supporting social-emotional growth, and preparing children for a successful transition to formal schooling [54], [55][8]. However, the quality of these programmes is a significant factor in determining the extent to which children will benefit [57], [58], [59], [60], [61].

The Learning Programme Quality Assessment (v2) Tool (LPQA v2) measures the quality of a group learning programme for children aged 3–5 years in five domains aligned with the South African National Curriculum Framework (NCF) [10]:

1. **Materials & Equipment:** Evaluates the learning materials and how they are organised in the classroom.
2. **Planning & Assessment:** Examines curriculum use, programme planning, and child monitoring.
3. **The Learning Programme:** Examines the daily schedule and the quality of numeracy, literacy, group times, and free-play sessions.
4. **Teaching Strategies:** Evaluates the strategies used by ELP staff to support and extend children's learning and encourage independence.
5. **Relationships & Interactions:** Examines interactions between children and staff and how staff encourage positive peer interactions.

Trained assessors were required to spend a minimum of two hours in each ELP to observe the learning programme, materials, and teaching practices. Each item is scored at three levels - Inadequate, Basic and Good. Figure 20 below provides an overview of the LPQA v2 category breakdown for the total score and each of the domains. The first column shows results for all 1,388 ELPs. The second and third columns indicate the performance of ELPs in the Bottom 80% ELP Fees and Top 20% ELP Fees respectively.

[8] Importantly, how much children will benefit from an ELP is also influenced by their home environment, nutritional status and inherent child characteristics [56].

Figure 20: LPQA (v2) Total and domain scores by ELP fee band

Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.

In line with previous research [20], Higher Fee ELPs have higher quality ratings on all domains than the Lower Fee ELPs. **Relationships & Interactions** (covering warm and responsive teaching, fostering good peer relations and positive discipline) is the domain with the highest overall percentage of Good Category scores, ranging from 47% for Lower Fee ELPs to 71% for Higher Fee ELPs. **Teaching Strategies** ratings are weaker for both groups, which is a concern as they are widely considered the best predictor of child learning outcomes [58], [62] - a mere 14% of Lower Fee ELPs have a good rating and 36% of Higher Fee ELPs.

The high percentage of inadequate scores (46% overall) for **Planning & Assessment** - which forms the basis for individualised, responsive teaching - is also a concern. For the **Learning Programme domain**, 35% of Lower Fee ELPs received a rating of good, compared to 63% of Higher Fee ELPs. As expected, given the financial constraints referenced earlier, only 40% of Lower Fee ELPs had access to adequate teaching **Materials & Equipment,** compared to 74% of the Higher Fee ELPs. When practitioners were asked about the primary barrier they face to doing their job, 43% cited 'not enough equipment and play materials'.

To understand the relationship between LPQA v2 scores and children's development, hierarchical linear regression analyses were used to examine whether LPQA scores predict children's **ELOM 4&5 Total Scores.** The analysis was done in two steps:

- **Model 1 only included ELP fee levels without accounting for any other factors.** It found that the fee level alone explained 11% of the variation in children's total ELOM 4&5 scores, meaning that children in higher-fee programmes generally scored higher.

- **Model 2 included the total LPQA score in addition to the ELP fee band.** The results show that the total LPQA score was significantly associated with ELOM 4&5 total score ($b = 1.153$, $\beta = 0.110$, $p < .001$), meaning that for every additional point on the LPQA scale, children's ELOM scores increased by about 1.15 points on average. However, the LPQA score accounted for only an extra 1% of the variation in scores once fee level was taken into account, suggesting that ELP fees remain the stronger predictor in this model.

Research has consistently found that the relationship between standardised measures of ELP quality, particularly structural indicators, and child learning outcomes is often modest and sometimes inconsistent. This is partly because the aspects of quality that matter most, such as the richness of interactions between adults and children, are more difficult to capture through conventional measurement tools, yet have a powerful influence on children's learning and development [63], [64].

To better understand which aspects of learning programme quality matter more for children's early learning outcomes, further statistical analysis was conducted. This examined whether scores in each of the five LPQA domains predict children's overall ELOM 4&5 scores (while accounting for ELP fee levels). Only one LPQA domain significantly predicted children's ELOM 4&5 scores: **Teaching Strategies.**

This domain looks at how practitioners support learning through key daily interactions and routines. It assesses the quality of staff–child interactions, including the use of open-ended questions to extend children's thinking, and it looks at how practitioners support the development of age-appropriate independence.

Although the effect size was modest, the finding is important: children enrolled in programmes where practitioners engage in strategies that support and extend learning achieve better outcomes on average. That is, ***how*** **practitioners engage children in learning really matters.**

This raises an important question: what factors shape the quality of practitioner-child engagement? Given the strong emphasis placed on practitioner qualifications in both policy and funding decisions, the analysis also explored whether having ECD qualifications is associated with better-quality programmes (as measured by the LPQA v2).

Practitioner qualifications and ELP quality

Table 11 shows the highest level of ECD qualification achieved by practitioners (this includes principals who actively teach in the ELP). Practitioners in the Top 20% ELP Fee level are significantly more likely to have a qualification above National Qualifications Framework (NQF) Level 5.

Table 11: Distribution of practitioner qualifications, by ELP fee group

	Total	ELP Fees Bottom 80%	ELP Fees Top 20%
None	26%	27%	22%
Accredited skills programme	7%	6%	10%
NQF Level 1	7%	7%	8%
NQF Level 4	38%	40%	27%
NQF Level 5	17%	17%	18%
Higher than NQF Level 5	5%	4%	15%
N	1,345	1,080	265

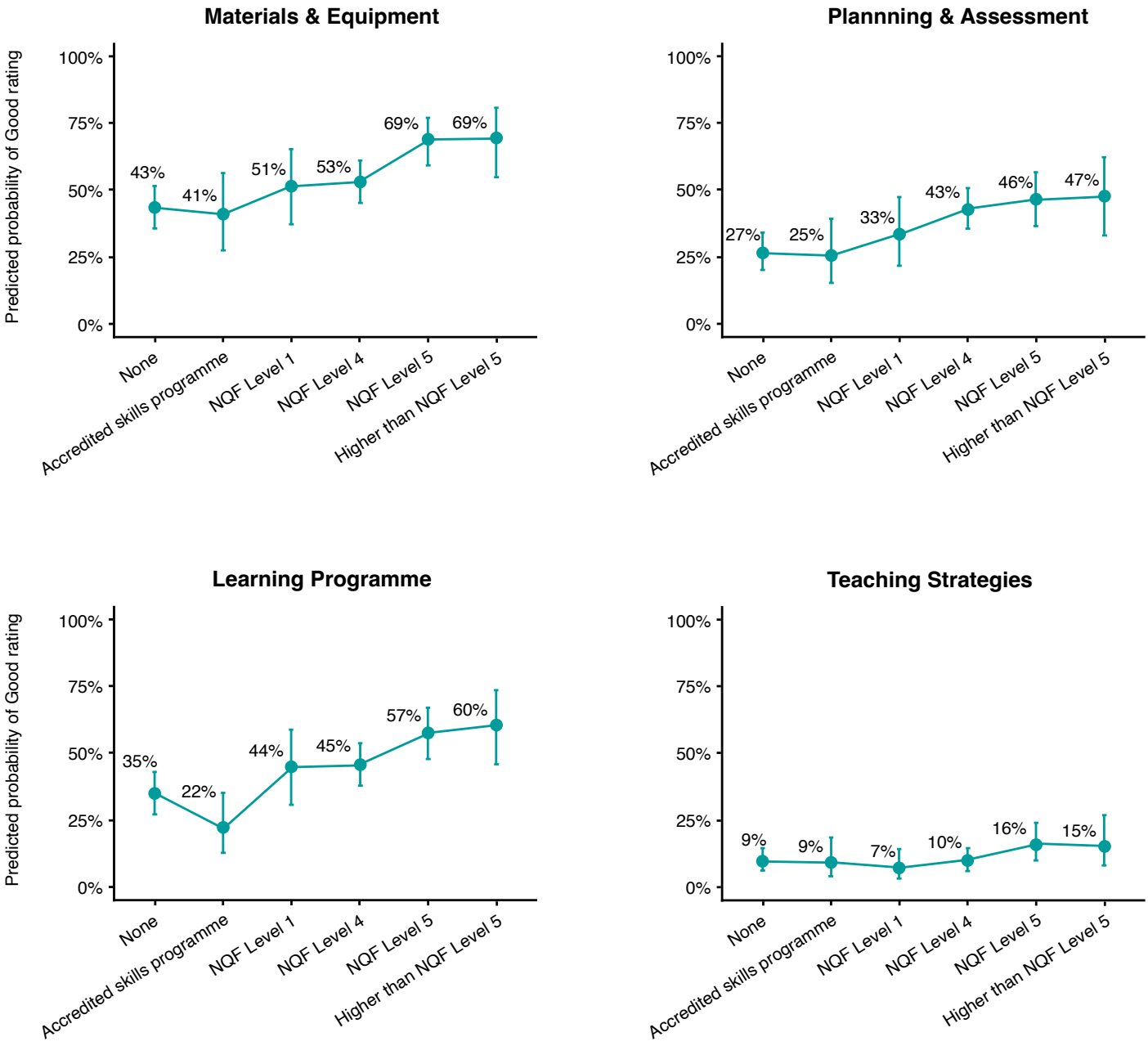
Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.

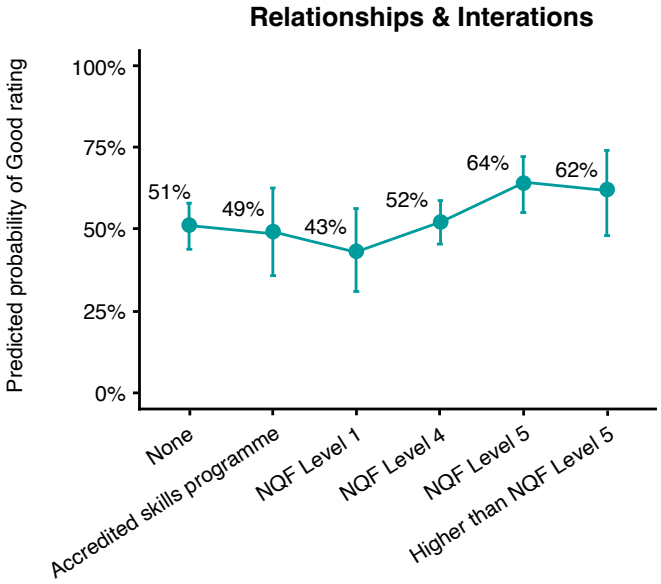
Evidence for the effect of qualifications on ELP quality is mixed, and South African studies have seldom found a strong association [20], [26], [65]. To examine how practitioner qualifications are associated with learning programme quality, five separate mixed-effects logistic regression models were fitted - one for each LPQA domain: Materials & Equipment, Planning & Assessment, Learning & Progress, Teaching Strategies, and Relationships & Interactions.

Each LPQA v2 domain is scored as either Good, Basic, or Inadequate. But for analysis purposes, Basic and Inadequate ratings were combined into a single category, resulting in a binary outcome: Good versus Basic/Inadequate. Each model included the following predictors: practitioner's highest level of qualification (the primary variable of interest); fee group; and practitioner's years of experience. To account for the clustering of practitioners within study areas and ELPs, random effects were included at both the study area and ELP levels.

The figures below present the model-based predicted probabilities of receiving a *Good* rating on each domain, for each level of practitioner qualification, while controlling for fee group and practitioner experience. The line graphs illustrate the upward trends in predicted probabilities of a "Good" rating across the five LPQA v2 domains by practitioner qualification levels. The vertical bars represent the confidence intervals, conservatively illustrating areas where the differences are statistically significant (lines do not overlap) or not significant (lines overlap). Wider confidence intervals for certain qualification levels reflect smaller sample sizes within those groups.

Figure 21: Practitioner qualifications & probability of a "Good" rating on LPQA v2 domains





Overall, the results indicate an association between higher practitioner qualification levels and an increased likelihood of receiving a “Good” rating across three of the LPQA v2 domains, even after controlling for ELP fee group and practitioner experience. For instance, in the Materials & Equipment domain, practitioners with no qualification had an estimated 43% probability of receiving a “Good” rating, compared to 69% for those holding a NQF Level 5 qualification or above. The non-overlapping confidence intervals for these estimates suggest that the difference is statistically significant, and a further formal pairwise test confirmed these (and subsequent) findings.

Comparable patterns emerge in the Planning & Assessment and Learning Programme domains, where practitioners with NQF Level 5 qualifications are also significantly more likely to receive a “Good” rating than those without qualifications. These findings support the argument that relevant training is linked to improved practice in key structural and planning-related aspects of quality.

In contrast, no significant relationship is observed between qualification level and ratings in the Relationships & Interactions domain, where confidence intervals across qualification levels overlap substantially. Similarly, no significant positive association is found between practitioner qualifications and their ratings on the Teaching Strategies domain. This is particularly concerning given that this is the only LPQA v2 domain found to significantly predict children’s ELOM 4&5 scores. This disjuncture highlights a potentially important gap in practitioner training. It suggests the need for further investigation into whether current qualifications adequately prepare practitioners to deliver high-quality, responsive teaching practices.

A separate working paper will provide a more detailed analysis of how additional characteristics of ELPs, such as registration status and receipt of government subsidies, are associated with programme quality and child development outcomes.

08 How Caregiver, Child Health and Household Factors Influence Child Outcomes

An earlier section provided an overview of the characteristics of the primary caregivers (PCGs) and households in the sample. This section offers a brief exploration of how PCG characteristics are associated with children's developmental outcomes. It is intended as an initial glimpse, rather than a comprehensive analysis, of the types of relationships that can be examined using the *Thrive by Five Index* data. Once the dataset is made publicly available, we encourage others to build on this work and pursue additional lines of inquiry to deepen understanding and inform evidence-based action.

As noted previously, the development of the *Thrive by Five Index* 2024 survey forms was guided by the Nurturing Care Framework for Early Childhood Development [3], which emphasises five interrelated components: good health, adequate nutrition, responsive caregiving, safety and security, and opportunities for early learning. Engagements with subject matter experts helped identify, prioritise, and frame the most relevant questions for inclusion in the PCG interviews, focusing on established drivers of child development, while also incorporating emerging areas with potential to generate new insights.

Because the survey had to be administered telephonically and completed within approximately 20 minutes, it was necessary to be highly selective in what topics and specific questions were included. For some constructs, a broader set of items would have been better to support the construction of more robust indices. However, given these time and modality constraints, the scope and depth of certain measures had to be limited.

Findings from the PCG interviews (N = 3,841) are presented below for a selection of variables clustered as follows:

- PCG education
- Home learning environment
- PCG wellbeing
- Child health and nutrition and basic services.

We report simple descriptive statistics, such as the percentage of children exposed to specific risks, along with comparisons between children attending the Bottom 80% ELP Fees and the Top 20% ELP Fees. In some instances, we draw on statistical modelling to explore how these factors are associated with children's developmental outcomes, while accounting for key background characteristics like age, gender, and ELP fee levels.

For the regression analyses, the focus is on four out of the five developmental domains: Fine Motor Coordination and Visual Motor Integration (FMC-VMI), Emergent Literacy and Language (ELL), Emergent Numeracy and Mathematics (ENM) and Cognition and Executive Functioning (CEF). Gross Motor Development (GMD) is excluded from this analysis because it follows a different pattern from the other developmental domains, which could skew the overall findings or result in misleading conclusions.

The goal of this section is to deepen our understanding of the real-world conditions that support, or constrain, young children's ability to thrive. When interpreting these results, it is important to recognise that South Africa's caregiving landscape is both dynamic and complex and that interviewing a single caregiver often fails to capture the full range of influences on a child's development, as care is frequently shared across multiple family members and community figures.

8.1. Primary Caregiver Education and Child Outcomes

Caregiver education, particularly that of mothers, is positively associated with child outcomes and a higher likelihood of engaging with stimulating activities in the home [66], [67]. To explore the relationship between PCG education and child outcomes, a categorical variable was constructed using responses from the PCG survey.

This variable drew on four sequentially asked questions: (1) the highest school grade completed, (2) whether the respondent passed Grade 12 with a matric certificate, (3) whether they completed any form of tertiary education, and (4) the type of tertiary qualification obtained (diploma, certificate, or degree). The final categorical variable that was used includes four levels of educational attainment (Table 12), which comprised a total sample of 3,801 caregivers.

Table 12: Primary caregiver highest level of education

Category	Description	% Primary Caregivers
1	Has not completed high school and passed matric - this includes PCGs with no schooling, some primary school, completed primary schooling, some secondary school, Grade 12 but no matric pass.	44%
2	Completed high school and passed matric, but no post-school qualifications	23%
3	Completed high school and passed matric, and obtained a diploma or certificate	25%
4	Completed high school and passed matric, and completed a university degree	7%
N		3,840

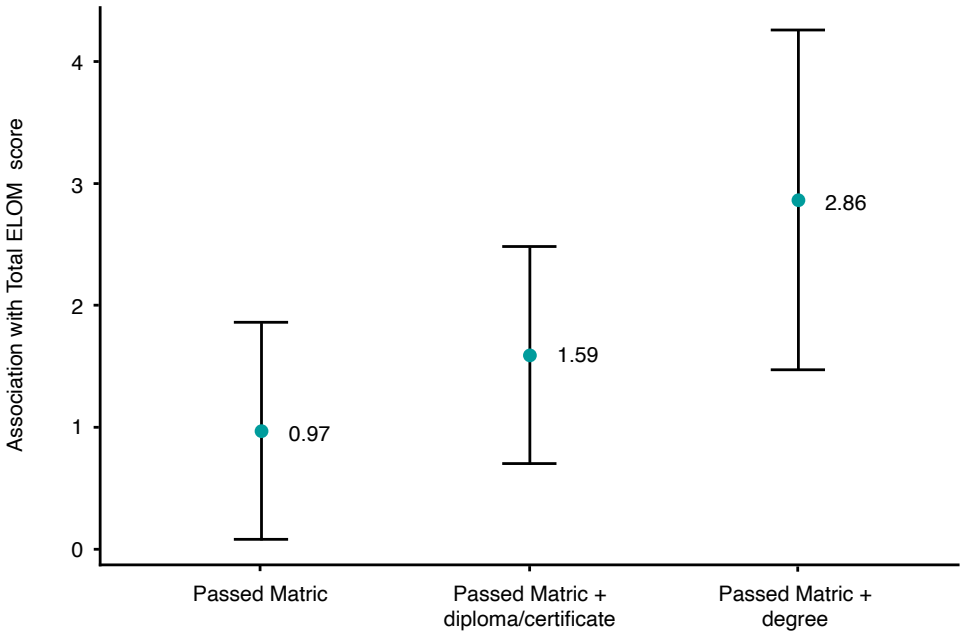
Source: Weighted estimates based on *Thrive by Five Index 2024* data

To investigate how caregiver education relates to child outcomes, a linear mixed effects model was used to control for key child-level factors, including age, gender, and ELP fee level. Each point in the plot below (Figure 22) represents a coefficient estimate for a different level of caregiver education, with 95% confidence intervals.

The plot shows a positive relationship between caregiver education and ELOM 4&5 outcomes, even after adjusting for the child-level factors. Specifically, compared to a child whose PCG had not passed matric:

- Children whose PCG had passed matric but had no post-school qualification scored on average one point higher on the ELOM 4&5 (statistically significant at $p<0.05$).
- Those whose PCG had passed matric and attained a diploma or certificate scored +1.6 points higher (significant at $p < 0.01$).
- Children whose PCG held a university degree scored +2.9 points higher (significant at $p < 0.01$).

Figure 22: Coefficient plot - association between PCG education and ELOM 4&5 Total Scores*



Source: Unweighted estimates based on *Thrive by Five 2024* Survey data
*Note: This total ELOM score excludes the Gross Motor Development domain score

A recent study analysing data from over 9,000 caregiver–child pairs across eight Low- and Middle-Income Countries (LMICs) found similarly that higher levels of caregiver education were positively associated with stronger child developmental outcomes, particularly in cognitive and language domains. Notably, this relationship was partially mediated by levels of home opportunities for early learning, including activities such as shared play and reading. This suggests that caregiver education translates, at least partly, into improved child development by fostering richer home learning environments [67].

The *Thrive by Five Index 2024* dataset provides a valuable opportunity to examine this relationship more deeply within the South African context. In particular, data could be used to investigate how caregiver education relates to child outcomes across different developmental domains and by gender, as well as to explore potential moderating factors such as programme quality, home learning environments, and access to support services.

8.2. Home Learning Environment and Child Outcomes

The home learning environment (HLE) is an important factor for school readiness and child outcomes, over and above caregiver education and socio-economic status [68]. Aspects of the HLE included in the PCG interview relate to the number of children's books in the home and the frequency of learning activities done with the child over the last week (e.g., reading, singing songs, counting things). The interview also specifically asks about the father's involvement in any of these learning activities.

Books in the home. Respondents were asked how many children's books, including picture books and library books, were in the household at the time of the interview. Only 11% of households with a 4-year-old child enrolled in an ELP have more than five children's books in the home. As illustrated in Table 13, 56% of the total sample had two or more books, and 26% reported having no children's books at all. These findings are consistent with the 2023 South African National Reading Survey [69], which highlighted limited access to reading materials in many households - only three in 10 adults reported that their oldest child owned a book by the age of five years.

Table 13 below highlights statistically significant differences in access to books at home between children attending ELPs in the Top 20% of the fee distribution and those in the Bottom 80%. Strikingly, 28% of households with children enrolled in Lower Fee ELPs have no children's books (owned or borrowed from a library) at home.

Table 13: Number of children's books in the home

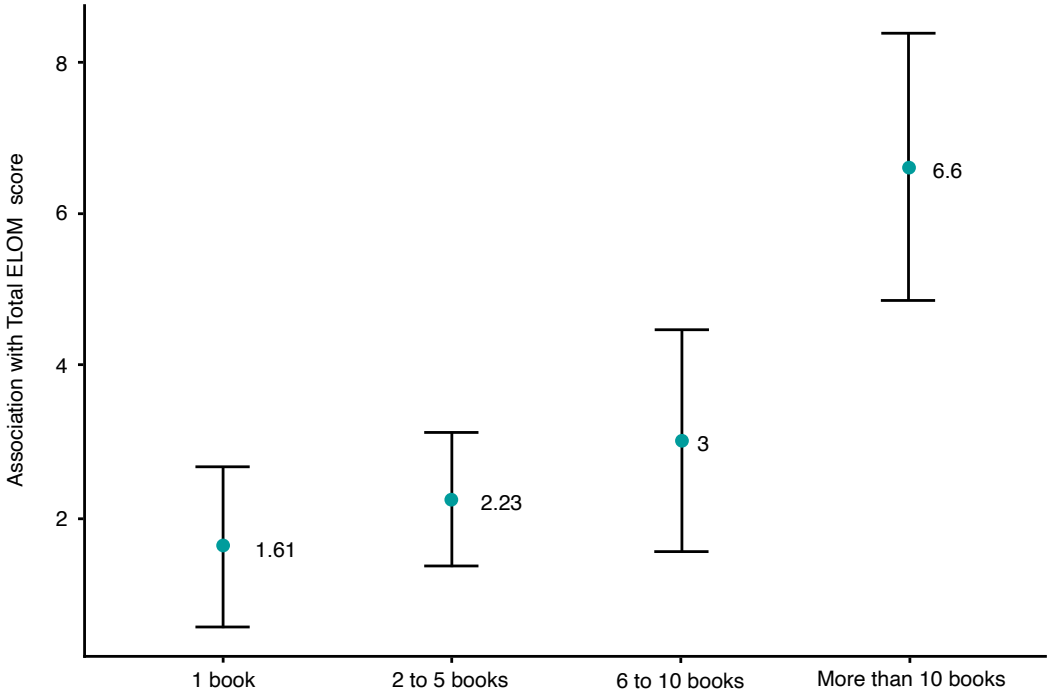
Number of books	All	Bottom 80% ELP Fees	Top 20% ELP Fees	Statistical significance
More than 10	4%	2%	21%	***
6 to 10	7%	5%	20%	***
2 to 5	45%	45%	43%	
1	19%	20%	7%	***
No books	26%	28%	8%	***
N	3,824	3,150	674	

Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Asterisks indicate statistical significance levels *** p<0.01
Note: Percentages may not total 100% due to rounding.

A linear mixed effects model was used to examine the association between the number of children's books in the home and children's early learning outcomes. The outcome was captured through a total ELOM 4&5 score that included four of the five domains: FMC-VMI, ENM, ELL and CEF. The model included controls for child age, child gender and ELP fee level.

Figure 23 plots the regression coefficients (unweighted) for each category, indicating the number of children's books compared to having no books in the home. Regression coefficients tell us how much a certain factor (like the number of books in the home) is linked to changes in an outcome (like a child's ELOM 4&5 score). Each dot represents the estimated increase in ELOM 4&5 scores for children from households with more books present in the home. Vertical lines show the 95% confidence intervals, indicating the precision of these estimates.

Figure 23: Coefficient plot: association between books at home and ELOM 4&5 Total Scores*



Source: Unweighted estimates based on *Thrive by Five Index 2024* data
*Note: This total ELOM score excludes the Gross Motor Skills domain score

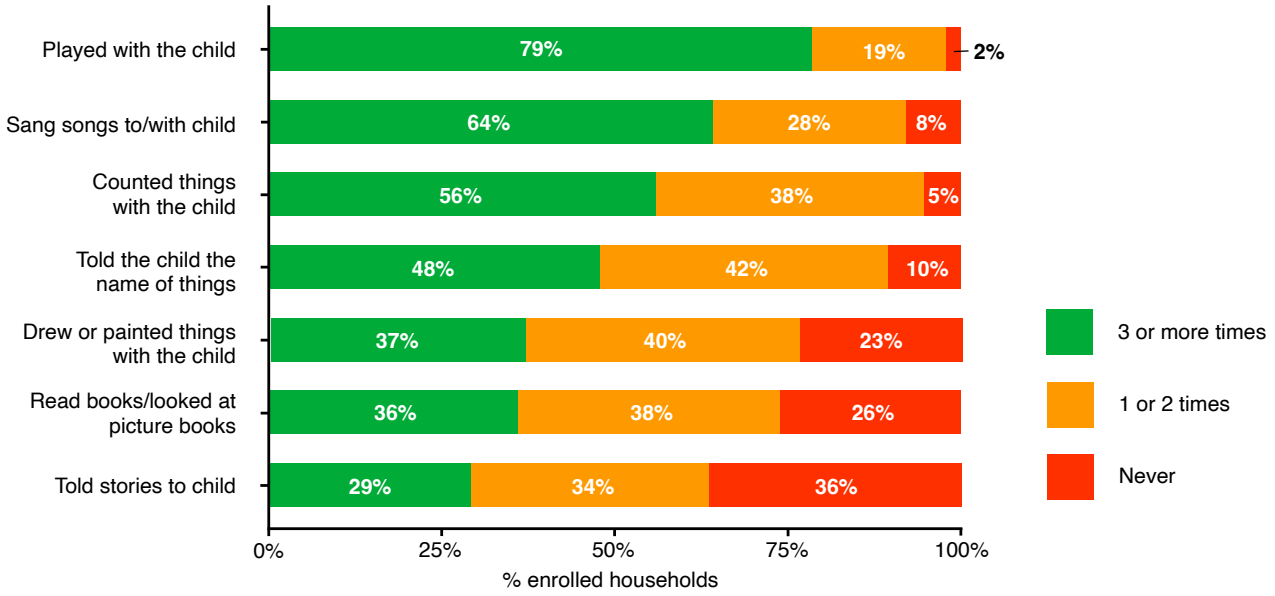
After controlling for child age and gender, and ELP fees, having access to books in the home showed a strong positive association with the total ELOM 4&5 score. As the number of books in the home increases, children's learning scores also go up. Children in homes with 10 or more books scored, on average, 6.6 points higher than those with no books, a meaningful and statistically significant difference ($p < 0.01$).

This finding underscores the powerful role that a print-rich home environment can play in supporting early learning. Policy and programme makers may consider prioritising efforts to expand children's access to books, especially in the early years. Efforts should focus not only on expanding access through initiatives such as partnerships with public libraries and ELP book-lending schemes, but also on reducing the cost of printing and distribution. This includes investing in open-source book development, leveraging digital-to-print technologies, and promoting partnerships with local publishers. Crucially, access to books must be improved across all official South African languages to ensure cultural relevance and linguistic inclusion for all children. In addition to improving access to books, support and education for caregivers on the importance of shared reading and the most effective techniques for engaging young children with books should be prioritised.

Home learning activities. Figure 24 presents the range of home learning activities included in the PCG interview and shows the extent to which any adult household member engaged in each activity in the past week. Overall, the frequency of home learning activities was encouraging. However, notable gaps remain: a substantial proportion of PCGs reported that no adult household member ever read or looked at picture books, told stories, or drew and painted with the child.

These three activities, along with naming objects, showed the largest significant differences between the ELP fee groups, with children in Higher Fee ELPs more likely to engage in these activities than their peers in Lower Fee ELPs (for example., 54% vs. 26% for storytelling three or more times per week). While activities like reading books or drawing often require access to materials, which may explain some disparities, the finding that 36% of caregivers reported never telling stories was more surprising. Both the UNICEF-DBE report [70] and the ELPO study [71], [72] found that over a third of children in these studies were never told stories, whereas singing songs and playing with children were far more common.

Figure 24: Adult-child engagement in home learning activities over the last week



Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding.

Father involvement. There is growing evidence that father involvement in early learning activities has an added positive effect on child development [73], [74]. For this reason, the PCG interview specifically included questions about the role of father figures in home learning.

Most 4-year-old children (64%) in South Africa do not live with their biological fathers [6], and many children live with an adult male who is not necessarily regarded as a father figure. In South Africa, fatherhood is shaped by complex social realities, including family structure, cultural norms, and socio-economic conditions that influence men's involvement in caregiving [75]. As far as possible, these complexities were considered during survey design and the PCG interview referred broadly to father figures, including biological, step, adoptive or foster fathers.

Fewer than half (49%) of PCGs reported that the child's father had lived in the same household during the past six months. Rates of father co-residence varied significantly by ELP fee group: only 46% of children attending ELPs in the Bottom 80% of the fee distribution lived with their fathers, compared to 70% in the Top 20% of ELPs by fee level.

PCGs were asked how often in the past seven days the child's father had engaged in play-based home learning activities such as reading, storytelling, singing, playing, naming objects, counting, and drawing with the child. Responses were combined to classify father involvement into three categories: (1) Never, (2) one to two times, and (3) three or more times. To avoid social-desirability response bias (when respondents give a response they think others will view favourably instead of an 'accurate' response), the analysis only includes data reported by primary caregivers who were not the child's father.

15%
of fathers engaged in 3 or more at-home learning activities with their child in the prior week

Despite the recognised developmental benefits of father involvement [73], [74], the findings suggest limited participation. Over 60% of fathers (adoptive, biological, foster or step) were reported to have had no involvement in learning activities with their child in the previous week (see Table 14). This includes fathers who were co-resident and those who were not. Levels of father involvement varied significantly by ELP fee levels. In the Bottom 80% ELP Fees, 67% of PCGs reported no father-figure involvement, compared to 33% in the Top 20% ELP Fees.

Table 14: Child's father doing home learning activities in the last week

Father engagement in home learning activities	Total	Bottom 80% ELP Fees	Top 20% ELP fees	Statistical significance
3 or more times in the last week	15%	13%	40%	***
1-2 times in the last week	21%	20%	27%	
Never	64%	67%	33%	***
N	3,410	2,836	574	

Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Asterisks indicate statistical significance levels *** p<0.01

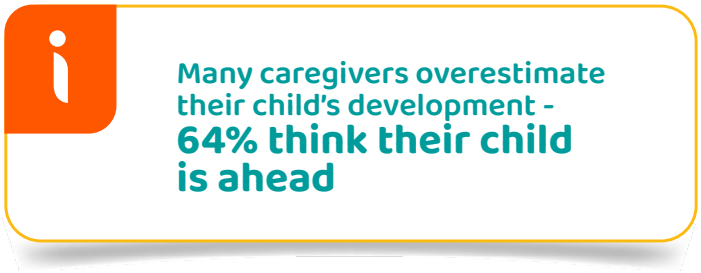
A linear mixed-effects model was used to examine the relationship between fathers' involvement and children's early learning outcomes, based on combined scores across four of the five ELOM 4&5 domains (where Gross Motor Skills was again the excluded domain). The model controlled for key background factors, including child age and gender, and ELP fee level.

The analysis found a positive gradient: higher levels of father involvement were associated with better early learning outcomes. However, the relationship was only statistically significant when comparing children with no reported father involvement to those whose fathers had engaged in play-based activities with them three or more times in the past week (b = 1.2, $p = 0.02$). Further analysis is needed to better understand how fathers' involvement influences specific domains of development, including potential differences by child gender and in interaction with other covariates.

These findings underscore the need for programming and messaging that recognises and supports the role of fathers and other male role models in early learning, especially in low-income contexts.

PCG awareness of child development. Understanding how caregivers engage with their child's ELP and how they perceive their child's development is meaningful, as responsive caregiving depends on knowing and recognising a child's individual needs and strengths. Principals were asked how many PCGs contacted them to discuss their child in the last three months, and over 70% of the principals reported that fewer than half or none of the PCGs contacted them.

PCGs were asked how they viewed their child's development compared to other children of the same age. Most (64%) of caregivers believed their child was developing faster than their peers, 32% felt their child was developing at a similar pace, and only 4% thought their child was lagging behind. These perceptions were consistent across both higher and lower fee groups. This is in stark contrast to the ELOM 4&5 findings, which show that only 42% of enrolled children are developmentally On Track for early learning.



There are several likely reasons for this difference between perceived and actual performance. PCGs may be reluctant to acknowledge developmental delays or may lack knowledge of age-appropriate milestones. *Reference group bias* may also be at play, where caregivers compare their child to peers in similar circumstances, many of whom may also be developmentally behind. This highlights the importance of raising public awareness around early development and increasing access to tools that help caregivers accurately understand and support their children's growth.

8.3. Primary Caregiver Wellbeing and Child Outcomes

Responsive caregiving during the preschool years plays a critical role in child development, particularly for children exposed to early adversity [76]. Responsive caregiving refers to a caregiver's timely and developmentally appropriate responses to a child's cues, as well as ongoing emotional support and engagement in activities that promote learning [67], [77]. The capacity of PCGs to provide responsive care is often constrained by structural stressors such as poverty, gender inequality, and unsafe communities [78]. These conditions negatively impact caregivers' mental health and emotional well-being, which are foundational to high-quality caregiving.

High levels of social connectedness (or social support) have been linked to improved mental health in caregivers. Additionally, higher levels of difficulty with daily tasks are closely associated with poor mental health. Considering this, two aspects of PCG wellbeing were included in the PCG interview: social connectedness and daily functioning. PCGs were asked to select the most appropriate response from a short list of options for each of four statements[9] shown in Table 15.

[9] A fifth statement related to employment was also included in the set of items. However, due to high levels of unemployment among the sample, the response rate for this item was very low. As a result, this data has been excluded here.

Table 15: Primary caregiver social connectedness and daily functioning

Social functioning		Responses	N
Social connectedness	1. My family tries to help me		3,836
	Agree/strongly agree	85%	
	Disagree/strongly disagree	15%	
	2. I can count on my friends when things go wrong		3,753
	Agree/strongly agree	51%	
	Disagree/strongly disagree	50%	
Daily functioning	3. In the last 4 weeks, I found taking care of things at home		3,841
	Not difficult	62%	
	Somewhat difficult	26%	
	Very difficult/Extremely Difficult	13%	
	4. In the last 4 weeks, I found getting along with other people		3,840
	Not difficult	82%	
	Somewhat difficult	13%	
	Very difficult/Extremely Difficult	5%	

Source: Weighted estimates based on *Thrive by Five Index 2024* data
Note: Percentages may not total 100% due to rounding. Due to Don't know responses and Refusals, sample sizes differed for questions - this is indicated in the N column

Overall, social support from family was reported more frequently than support from friends. Encouragingly, most primary caregivers reported relatively low levels of difficulty with daily tasks. However, there remains a small subset of PCGs, particularly within the lower fee group, who reported experiencing significant challenges in managing household responsibilities.

Additional research is planned to further unpack household and caregiver characteristics, and their association with child development across domains.

8.4. Child Health, Nutrition and Sleep and Child Outcomes

A child's health in the earliest stages of life, beginning already at conception, plays a crucial role in their development. Gestational age and birth weight, maternal health behaviours during pregnancy, child sleep routines and early health factors can have lasting effects on cognitive, physical, and emotional development.

Pregnancy risk factors

The Drakenstein Child Health Study (DCHS), a longitudinal cohort study in the Western Cape, found that children born preterm or with lower birth weights exhibited higher risks of cognitive, language, and motor delays by age two, particularly boys [79]. Prenatal alcohol exposure significantly impacts early motor functioning by six months [80] and prenatal tobacco use, commonly combined with alcohol consumption, further exacerbates developmental risks [81], [82].

In the *Index* sample, amongst children enrolled in ELPs, 11% (N=2,380) had low birth weight, defined as less than 2,500 grams. In 2021, the national low birth weight rate in South Africa was estimated at 13%, meaning more than one in ten newborns were underweight [83]. Low birth weight is often linked to factors such as maternal malnutrition, young or advanced maternal age, substance use during pregnancy, and/or limited access to quality antenatal care.

Almost 13% of enrolled children were born prematurely (before 37 complete weeks), with 2.5% extremely premature (below 33 weeks). Prematurity is the leading cause of neonatal deaths in South Africa, responsible for 49% of all cases [84]. It is also associated with increased risk of developmental delays.

Reports of alcohol and tobacco use during pregnancy were relatively low, with just over 4% of mothers indicating they consumed alcohol and 3% reporting that they smoked during pregnancy. However, these estimates should be interpreted with caution, as self-reported behaviours, particularly those that carry social stigma, are susceptible to underreporting due to *social desirability bias.*

Of the 3,835 children for whom data were available on the mother's age when giving birth, 4% were born to mothers younger than 18 years of age, another risk factor for child development. 100% of these teenage pregnancies occurred for mothers whose children are enrolled in ELPs in the bottom 80% of the fee distribution, indicating increased socio-economic vulnerability.

To explore the relationship between birth weight and early learning outcomes (using a total ELOM score consisting of four of the five ELOM domains: FMC-VMI, ENM, CEF and ELL), a linear mixed-effects model was fitted. This model controlled for child age and gender, and ELP fee level. Birth weight was defined as a binary variable, with "low birth weight" categorised as less than 2,500 grams (2.5 kg). The results indicate that low birth weight was significantly associated with lower early learning scores. On average, children born with low birth weight scored 2.9 points lower on the ELOM 4&5 compared to their peers (b=-2.89; $p < 0.01$).

These findings are consistent with a broader body of research linking low birth weight to increased developmental vulnerability in early childhood. Further analysis is needed to investigate domain-specific patterns and to understand better how early health indicators like birth weight interact with postnatal environments and caregiving conditions. Such insights could help inform more targeted support and multi-sectoral early interventions for children at greater risk.

Child sleep patterns

Regular and healthy sleep routines are essential for young children's cognitive, emotional, and behavioural development, all of which play a critical role in shaping early learning outcomes [85], [86]. South Africa's 24-Hour Movement Guidelines recommend that children aged 3–5 years get 10–13 hours of quality sleep per day, including naps [87].

The PCG interview included two exploratory questions capturing key aspects of child sleep patterns. PCGs were asked how often the child goes to bed at the same time each night (excluding weekends) as an indication of regular bedtime routines, and how often the child goes to bed after 9 pm (also excluding weekends) as an indicator of sleep duration. Given that many young children wake with caregivers or older siblings by 7 am or earlier, a bedtime after 9 pm may result in less than 10 hours of sleep, falling below the minimum recommendation outlined in the national 24-Hour Movement Guidelines.

Only half (51%) of primary caregivers reported that their child goes to bed at a similar time each weeknight, 'most of the time', and 57% of caregivers reported that their 4-year-old child goes to bed after 9 pm, either 'some' or 'most of the time'. These results also show disparities in sleep patterns amongst enrolled children across different socio-economic circumstances, with better sleep routines amongst children attending Higher Fee ELPs. Socio-economic circumstances often shape sleep environments, with disadvantaged households facing increased stressors (such as overcrowding and parental work demands) leading to irregular sleep routines [87].

Interventions that promote earlier and more consistent bedtimes, and that provide children with the recommended amount of sleep for their age, may contribute meaningfully to improvements in children's learning, behaviour, and overall well-being. Further research is warranted to deepen understanding of these relationships to inform the design of contextually appropriate sleep-support strategies.

09 Modelling Early Learning Outcomes in the 2024 Index

In this section, we present results of an exercise that examined which factors predict differences in children's early learning performance, as measured on the ELOM 4&5. This modelling exercise used a restricted sample of 3,599 children as key variables from the PCG interviews, required for the analysis, are not available for the full sample of 5,001 children

The modelling identified six factors that together explain 49% of the variation in early learning outcomes. The analysis reveals that children's ability to maintain attention, concentration and diligence while working on ELOM 4&5 items (the ELOM 4&5 Task Orientation Score) is the strongest predictor of performance, followed by their Emotional Functioning and household socio-economic status (SES).

9.1. Why Structural Equation Modelling Was Used

The analysis employed Structural Equation Modelling (SEM), rather than traditional regression approaches, for three reasons. Firstly, many important developmental constructs cannot be directly observed but must be inferred from multiple indicators, e.g. household SES is not captured by income alone but emerges from multiple factors, including parental education, occupational status, household assets, and access to resources. Secondly, SEM allows measurement error to be explicitly modelled, so that error does not attenuate the estimated relationships among the latent variables. Thirdly, the technique can trace both direct effects (e.g., A affects B) and indirect effects through mediators (e.g., A affects B through C - the mediator).

We used the *lavaan* package in the R statistical programming language, with methods specifically designed for ordinal data - that is, variables measured on ordered categorical scales (such as "never," "sometimes," "often," "always"), where the distances between categories may not be equal.

SEM models are inherently complex, containing many parameters that must be estimated simultaneously. Unlike simpler analyses where a single statistic might indicate whether a relationship is significant, SEM requires evaluation at multiple levels. We assessed global fit - how well the entire model reproduces the patterns in the data, and local fit - whether specific parts of the model show strain or misspecification. Model fit was evaluated using standard indices, each capturing different aspects of how well our theoretical model matched the observed data. Generally speaking, all the fit indices in our models showed a very close fit to the data, indicating that the relationships between the variables that we had hypothesised and tested using SEM were confirmed.

9.2. Using Latent Variables to Measure Complex Concepts

The modelling process began by identifying groups of related variables that could be combined into broader constructs called 'latent variables'. A latent variable is an underlying property that cannot be measured directly but is inferred from several related, observable indicators. Five latent variables were retained in the final model, each constructed from several observed indicators (variables measured in the *Thrive by Five Index 2024*).

Early Learning Performance represented the outcome we sought to predict. We combined scores from four of the five ELOM 4&5 domains: Fine Motor Coordination and Visual Motor Integration (FMC-VMI), Emergent Numeracy and Mathematics (ENM), Cognition and Executive Functioning (CEF), and Emergent Literacy and Language(ELL). The Gross Motor Development (GMD) domain was excluded for both theoretical and measurement reasons (gross motor skills, while important for child development, represent a distinct developmental dimension not closely aligned with the cognitive and pre-academic skills captured by the other domains).

Household Socio-Economic Status (SES) emerged from combining four indicators that capture different facets of family resources. PCG education level served as a proxy for human capital and the educational environment of the home. ELP fees indicated the family's ability to invest in quality early education (i.e., a proxy for household wealth). The count of household assets (from a standardised list including items like fridges, televisions, and vehicles) measured material wealth. Internet access captured both economic resources and connection to information networks.

Emotional Readiness represents children's capacity for emotional functioning, recognised as foundational for learning. Early childhood practitioners who knew the children well rated them on the Social-Emotional Functioning (SEF) Rating Scale. Items included whether children could understand emotions in themselves and others, express emotions in socially appropriate ways, work independently without constant adult support, adjust to new situations without excessive distress, display confidence in their abilities, and initiate activities rather than always waiting to be directed.

Task Attention (ELOM 4&5 Task Orientation items) represented a methodological innovation in this study. Previous ELOM administrations focused solely on children's performance on specific tasks. However, pilot work [23] suggested that how children approach tasks might be as important as their current skill levels. Assessors were therefore trained to rate four aspects of children's behaviour during the ELOM 4&5 assessment itself: how attentive they remained throughout tasks, their level of concentration when challenges increased, their diligence in persisting with difficult items, and their apparent interest in the activities.

Classroom Learning Materials captured the educational resources available in the learning environment. The measure integrated three item ratings from the Learning Programme Quality Assessment v2 Tool: the amount and variety of indoor learning materials, the developmental appropriateness of these materials for the age group, and the variety of open-ended materials that allow for creative exploration.

Several other potential latent variables were tested during model development but ultimately excluded, either because they had inadequate measurement properties when considered as a group, or because they demonstrated no predictive relationship with ELOM 4&5 outcomes. This does not imply that these factors have no impact on ELOM 4&5 outcomes. It may be that individual indicators in the unsuccessful latent variable are predictive of ELOM 4&5 outcomes but are not sufficiently correlated with each other to make up an adequate latent variable.

Having established these five latent variables, the measurement model was tested, that is, the portion of the SEM that is taken up by the latent variables. This measurement model showed excellent fit to the data, with all loadings of observed variables on latent variables statistically significant and most residual variances modest, indicating that our latent variables successfully captured the common variance among their indicators while leaving behind measurement-specific noise.

9.3. The Structural Model: Linking Influences to Outcomes

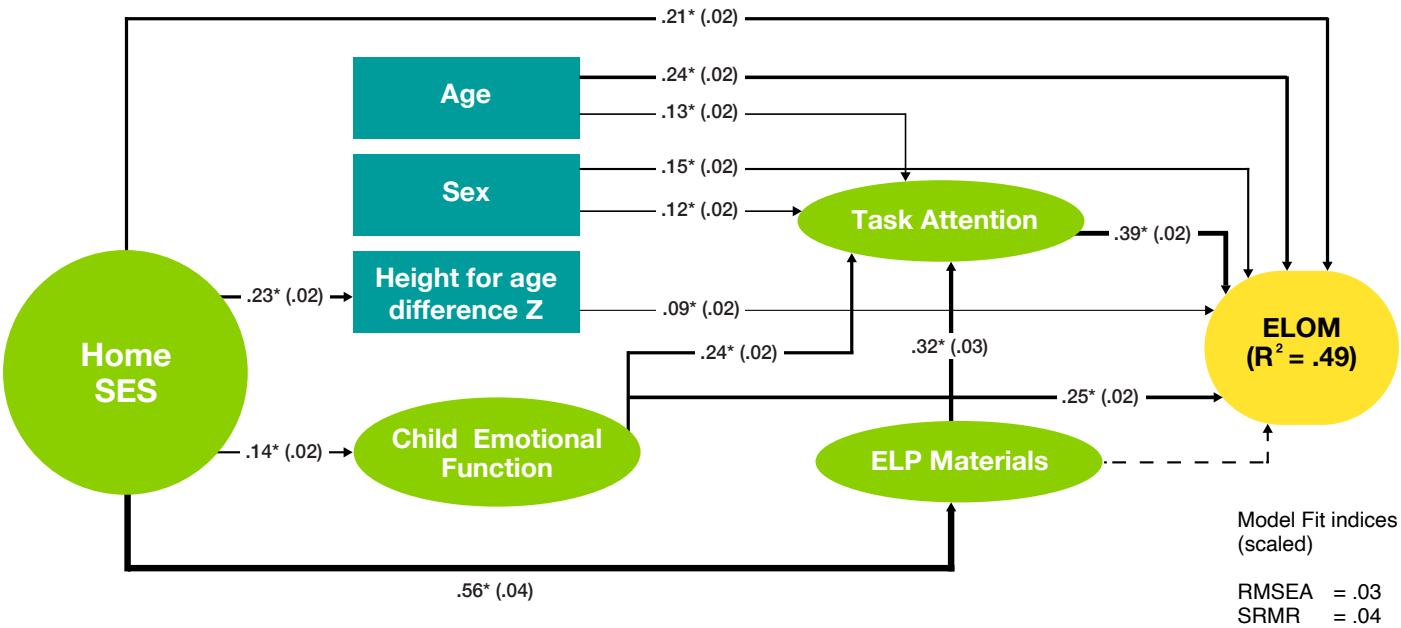
After establishing that our latent variables were well-measured, we specified the structural model. These are the theoretical relationships among the constructs and additional observed predictors based on the literature in this field, and also drawing on analyses from the *Thrive By Five Index 2021.*

Three demographic variables entered the model as observed rather than latent variables: child age in months, gender, and height-for-age difference (HAD) scores that indicate child growth status relative to healthy growth standards [48]. The model embodies a specific theory about how these factors influence early learning. We hypothesised that household SES would not only directly affect learning outcomes but would also operate through several indirect pathways. We expected that families with greater resources would provide richer learning materials, support better emotional functioning in their children, and ensure better physical growth through adequate nutrition. The quality of learning materials and emotional functioning would, in turn, support children's ability to maintain attention during learning tasks. Finally, attention would serve as a mechanism through which these more distal factors influence performance. Some factors might also have direct effects on learning beyond their indirect influence.

9.4. Key Findings from the Structural Equation Model

Figure 25 shows the fitted Structural Equation Model. Paths are directional, and generally move from left to right in accord with the chronological order of the relationships. Regression coefficients are shown on significant paths, along with standard errors, which are measures of uncertainty. Asterisks mark significant paths. Overall fit statistics are also shown.

Figure 25: Modelling the factors that account for variation in early learning outcomes

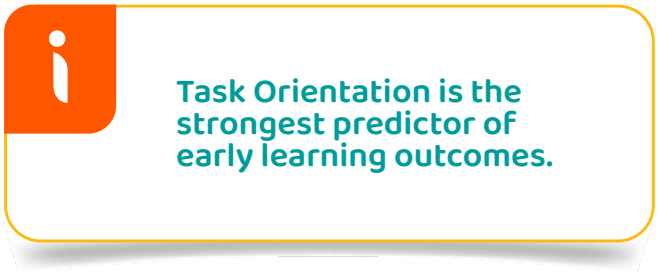


Note: Oval shapes are latent variables, and rectangular shapes are manifest variables. Values on the paths are standardised coefficients, with standard errors shown in parentheses. The thickness of the line represents the strength of the effect.

9.4.1. The central role of Task Orientation

Among all factors examined, Task Orientation emerged as the strongest predictor of early learning performance. When assessors observed children maintaining focus, concentration, diligence and interest during the ELOM 4&5 assessment, these children performed substantially better. A one standard deviation increase in observed attention corresponded to a 0.39 standard deviation increase in ELOM 4&5 performance, which is a large effect by social science standards.

This relationship remained robust after controlling for other factors in the model. The strength and specificity of this relationship carry important practical implications. While we cannot change children's age, gender, or family economic circumstances, children's attentional skills represent a potentially modifiable factor. It is important to note, however, that some assessor bias may be operating here. It is possible that assessors rate children who have performed well on the ELOM 4&5 items higher on Task Orientation.



9.4.2. The complex influence of socio-economic status

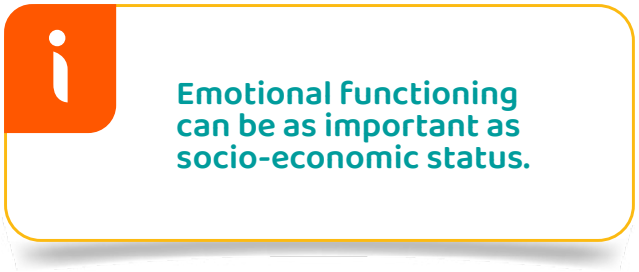
Household SES, as expected, showed a substantial relationship with early learning outcomes. The total effect of a one standard deviation increase in SES was 0.35 standard deviation increase in ELOM 4&5 performance, which is a meaningful difference likely to correspond to several months of developmental progress. This total effect decomposes into direct and indirect pathways. The direct effect of SES, unmediated by any variables in our model, accounted for 0.21 standard deviations or about 60% of the total effect. The remaining 40% operated through specific pathways.

The largest indirect effect (0.07 SD, representing 20% of the total) ran from SES through learning materials and attention to impact on learning outcomes. In other words, wealthier families can afford to send their children to ELPs with better educational materials, these materials help children develop focused attention, and this attention in turn supports learning. Smaller but still meaningful indirect pathways operated through emotional functioning (0.04 SD or 11% of total effect) and physical growth (0.02 SD or 6%).

An additional small effect (0.01 SD or 3%) represented a mediation with two steps to it, where SES supported emotional functioning, which supported attention, which in turn enhanced learning. Together, these indirect pathways reveal that while socio-economic advantage benefits children's learning, a substantial portion of these benefits flow through specific mechanisms that might be amenable to intervention. The large residual direct effect, i.e., the 60% of SES influence not explained by our mediators, likely includes unmeasured advantages that come with greater family resources.

9.4.3 Emotional functioning as a foundation for learning

Children's emotional functioning also emerged as a powerful predictor of early learning outcomes, with an effect nearly as large as that of socio-economic status. Moreover, emotional functioning showed an additional indirect effect by supporting better attention (contributing another 0.09 SD to learning outcomes through this pathway). The sum of direct and indirect effects, i.e., the total contribution of emotional functioning, is 0.33 standard deviations, making it one of the most important factors in our model. This finding accords with the view that learning is not a purely cognitive process but depends also on emotional well-being.



9.4.4 Demographic and physical factors

Three additional factors showed significant associations with learning outcomes. Age effects within our narrow 50–59-month window proved substantial. Each additional month of age was associated with improved performance, and across a one standard deviation range in the age variable, this accumulated to a 0.24 standard deviation difference in ELOM 4&5 scores. As a side note, we observe that even within a single preschool classroom, children may span nearly a full year in age, equivalent to 20-25% of their lifetime experience.

Gender differences also emerged clearly from the analysis. As we have seen in the descriptive analyses of the *Thrive by Five Index* data, girls outperformed boys by 0.15 standard deviations on average, after controlling for differences in all other measured factors. This may reflect broader differences in developmental timing, with girls reaching certain cognitive milestones earlier, or it might indicate that early learning environments and /or assessment conditions inadvertently favour patterns of behaviour and learning more typical of girls.

Physical growth, measured through height-for-age difference scores[10] that indicate long-term nutritional status, showed a modest but statistically significant effect of 0.09 standard deviations. While smaller than other effects in our model, this finding should not be dismissed. It indicates that physical health and nutrition contribute to cognitive development even after accounting for the socio-economic factors that often determine nutritional status. For the most growth-delayed children in our sample, this effect could represent a meaningful additional barrier to learning.

[10] Height for Age Difference (HAD) is a measure of a child's linear growth relative to the median height for their age and sex. It is an alternative to HAZ score and provides a continuous linear scale rather than standard deviation categories (normal, moderate and severe stunting).

9.4.5 Learning materials as a pathway to attention

An interesting finding emerged regarding classroom learning materials. In our final model, the quality and variety of learning materials showed no direct effect on ELOM 4&5 outcomes once attention was included. However, materials quality was strongly predicted by household SES (children in families with more resources tend to access better-resourced programs) and, in turn, predicted better attention during assessment. This pattern of mediation, where materials affect outcomes only through attention, suggests something important about how educational resources support learning.

9.5 Validating the Structural Equation Modelling Results

SEM offers numerous advantages for understanding complex developmental processes, but it also has limitations. Most notably, standard SEM approaches cannot easily accommodate the nested structure of educational data. These limitations raised concerns that our findings might be artefacts of the analytical approach rather than robust developmental patterns. To address these concerns, we conducted a parallel analysis using three-level linear mixed modelling. This approach explicitly recognised the complex survey design under which the data was collected. The mixed model analysis used the same predictors as the SEM but applied them to predict factor scores derived from the SEM measurement model. The results proved quite consistent with the SEM findings. Task Orientation remained the strongest predictor, and other predictors showed the same rank ordering: age, then household SES, emotional functioning, gender, and growth status.

Beyond confirming our main findings, the mixed model revealed useful information about the distribution of variance in ELOM 4&5 scores. Approximately 40% of the total variance occurred between, rather than within, clusters. This confirms that where children receive early education matters greatly for their outcomes, highlighting the importance of addressing quality disparities between ELPs and regions.

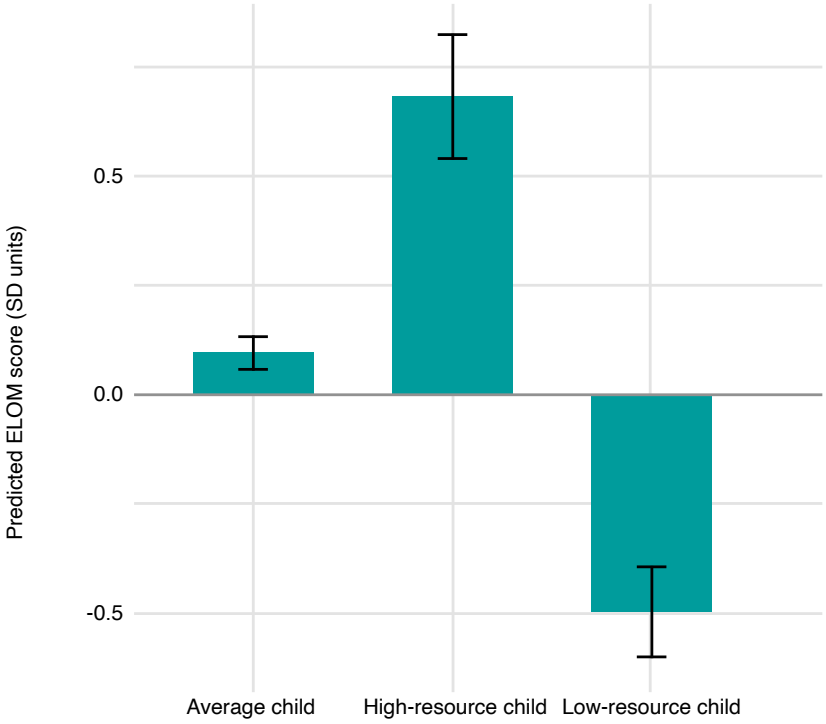
9.6 Interpreting these Findings with an Illustrative Case Study

Statistical coefficients can be difficult to interpret in practical terms. To illustrate what our findings mean for real children, we calculated predicted outcomes for two contrasting cases based on the model parameters.

Consider first a 59-month-old girl from a household one standard deviation above the mean in socio-economic status. Based on the relationships in our model, we would expect this child to show above-average emotional functioning. The combination of her demographic advantages (age and gender), socio-economic resources, and stronger emotional functioning would predict above-average attention. These cumulative advantages would result in a predicted ELOM 4&5 score well above the mean.

Now consider a 50-month-old boy from a household one standard deviation below the mean SES. The model predicts this child would show below-average emotional functioning and, consequently, poorer attention. His predicted ELOM 4&5 score would likely fall well below the mean. The gap between these two children represents a large difference in school readiness that could shape their educational trajectories.

Figure 26 shows the expected patterns for high resource, low resource, and 'average' children.



However, our analysis also suggests this gap is not immutable. If the disadvantaged child could be supported to achieve average-level attention and emotional functioning, his predicted outcome would improve, and although this would not eliminate the gap, it could reduce it substantially, potentially changing his educational trajectory.

9.7 Limitations of the Model and Implications for Future Research

Several limitations of this analysis should be acknowledged. The cross-sectional design, where all measures were taken at a single time point, prevents us from making strong causal claims. While our model specifies directional paths based on theory and prior research, the relationships identified remain correlational. Household SES likely preceded children's emotional development and attention skills, but we cannot prove this temporal ordering from our data.

Secondly, a model of the kind we have presented depends on the availability and quality of key variables. We did not have sufficient measures of caregivers' physical or mental health, or child health, but it should not be assumed these factors are unimportant. Collecting better health measures is an important objective for future research.

Our analysis excluded approximately 1,400 cases from the full sample due to missing data on key variables, particularly the primary caregiver interviews, which were conducted with 77% of assessed children's PCGs. A comparison between the full sample of assessed children and the subsample with completed PCG interviews showed no systematic bias. This suggests that the PCG subsample is broadly representative of the full sample on the dimensions that were measured.

Future research could address these limitations through longitudinal designs that follow children over time, allowing stronger causal inferences about how early factors shape later outcomes. Intervention studies that experimentally target attention and emotional functioning would provide the strongest test of our findings' practical implications. If programs that successfully build these capacities produce the learning gains our model predicts, it would both validate the causal interpretation of our results and provide proven strategies for improving outcomes at scale.

9.8 Conclusion: Key Takeaways from the Model

This analysis of the *Thrive by Five Index 2024* data moved beyond description to explanation. Through Structural Equation Modelling, we identified specific factors that account for nearly half the variation in early learning outcomes and traced the pathways through which these factors operate. The findings reveal a complex picture where household poverty creates real disadvantages, but where specific child capacities, e.g. task-focused attention and emotional functioning, can partially compensate for material disadvantage. A more detailed, technical account of the modelling is available on the *Thrive by Five Index* website.

Section 3

Non-Enrolled Children

This section presents findings from the **non-enrolled sub-study** on children aged 50-59 months who are not attending an ELP. It addresses the core research questions guiding this component of the analysis.

Here is what it covers:

- **Feasibility:** Is it operationally feasible to identify, reach, and assess non-enrolled children?
- **Developmental status:** What is the developmental profile of non-enrolled children, particularly in terms of early learning and physical growth?
- **Risk factors:** What individual, caregiver, and household characteristics are associated with non-enrolment - and what do these reveal about developmental risks?

All data presented for non-enrolled children is unweighted.

While it may be tempting to directly compare outcomes between enrolled and non-enrolled children, meaningful comparisons require careful statistical matching across a range of characteristics to account for contextual, demographic, and sampling differences. This matching process - and the comparative analyses it enables - will be presented in a separate working paper. The findings presented here should be interpreted in light of the study's purposive sampling strategy and limited scale.

10 Findings for Non-Enrolled Children

10.1. Background to the Non-Enrolled Sub-Study

Despite significant progress in expanding Early Childhood Development (ECD) services in South Africa, access to early learning programmes remains deeply unequal, with children from poor and vulnerable households facing the greatest barriers. Since most Early Learning Programmes (ELPs) rely heavily on parent fees, many families cannot afford to enrol their children.

An estimated 29% of 4-year-olds in South Africa - around 350,000 children - do not attend an early learning programme [6].

29%
of 4-year-olds - about 350,000 children - are not in early learning programmes.

As part of the *Thrive by Five Index 2024,* a small-scale sub-study was conducted to explore the feasibility of reaching and assessing children aged 50–59 months who were not enrolled in any ELP in 2024.

Importantly, child outcomes for the non-enrolled sample are:

- **Non-representative -** The sample of non-enrolled children was small and purposively selected, with data collection focused on lower-income communities in three provinces where non-enrolment was more likely. As such, this sample is not statistically representative of the broader provincial or national population of non-enrolled children.
- **Not comparable to the enrolled sample -** As noted previously, the non-enrolled sample only includes children from low-income areas in three provinces, whereas the enrolled sample is nationally representative. As shown in Table 16, the non-enrolled sample differs markedly from the enrolled sample in terms of household and caregiver socio-economic characteristics. For example, 73% of PCGs in the non-enrolled sample have not completed high school compared to 44% of PCGs in the enrolled sample. Households of non-enrolled children are significantly less likely to own a computer (7% vs 29%), have access to a motor vehicle (8% vs 37%), or benefit from a fixed internet connection at home (5% vs 23%). While Child Support Grant (CSG) uptake is relatively similar across the two groups, the percentage of children without a birth certificate is considerably higher in the non-enrolled sample (15% vs 2%), further reflecting systemic barriers to service access.

The table below also sets the *Thrive by Five Index* enrolled cohort and the sub-study of non-enrolled children alongside findings from Stats SA's 2024 General Household Survey (GHS). For the GHS, we show three views: all 4-year-olds, those enrolled in an early learning programme, and those not enrolled. In both datasets, **the non-enrolled children live in markedly poorer circumstances than their enrolled peers** and the national 4-year-old average. Because these socio-economic gaps are so pronounced, in addition to the non-enrolled sample not being representative, a simple side-by-side comparison of developmental scores between children enrolled in ELPs and the non-enrolled sub-sample would be misleading. A companion working paper, therefore, applies statistical matching techniques to allow for estimation of the effect of ELP enrolment on early learning outcomes.

Table 16: Comparing household characteristics of non-enrolled and enrolled children

Household characteristics	Thrive by Five Index		General Household Survey 2024***		
	Enrolled*	Non-enrolled**	Total	Enrolled (mid-point)	Non-enrolled (mid-point)
PCG has not completed high school	44%	73%	48%[11]	40%	65%
Household has computer / laptop	29%	7%	20%	25%	10%
Household has motor car	37%	8%	27%	32%	15%
Internet access via fixed connection in home	23%	5%	14%	17%	7%
Child has birth certificate	98%	85%	95%	97%	91%
Child receives CSG	79%	76%	72%	69%	78%

**Source: Unweighted Thrive by Five Index 2024 sub-study of non-enrolled children
***Source: Weighted GHS 2024 analysis by Katharine Hall, Children's Institute UCT. July 2025

The descriptive findings presented in this section paint a sobering picture, offering rare insights into the lives and developmental outcomes of a sample of vulnerable children who are not participating in formal early learning. This is an essential step toward creating a more comprehensive national understanding of early childhood development.

[11] In the GHS this information is limited to the co-resident mother

10.2. How the Non-Enrolled Sample Was Reached

The non-enrolled children were sampled from the same areas as enrolled children across three provinces – Gauteng, KwaZulu-Natal and the Western Cape. After the 432 enumeration areas were determined for the main study, 45 of these were identified from the bottom three school quintiles (bottom 60%) for the sub-study, including: informal, rural and urban formal areas. Using a geospatial information system (GIS), all dwelling units within the selected areas were identified to create a comprehensive listing of over 34,000 households.

Successful visits were made to more than 22,000 of these dwellings, where a short screening form was administered to determine eligibility for inclusion in the study. For a household to be eligible, it was required to: (1) have a child aged 50–59 months at the time of the survey, who (2) did not attend an ELP in 2024, and (3) and did not have any of the specified disabilities i.e. difficulties seeing, hearing, walking or moving their arms or legs, or difficulties understanding what people say.

The planned sample size for non-enrolled children was 540, but it was extremely challenging to identify non-enrolled children in the field and to conduct valid assessments within children's homes. The final realised sample size was 272 children (across 262 households in three Provinces).

Table 17: Number of children and households in non-enrolled sample, by province

Province	Non-enrolled children		Households	
	N	%	N	%
Gauteng	127	47	123	47
KwaZulu-Natal	36	13	34	13
Western Cape	109	40	105	40
Total	**272**	**100**	**262**	**100**

Source: Unweighted *Thrive by Five Index 2024* sub-study of non-enrolled children
Note: There are fewer households than children in the non-enrolled sample since the study design allowed for multi-family arrangements, for example, cousins living in the same household.

While the *Thrive by Five Index 2024* successfully piloted the inclusion of a sample of non-enrolled children, the experience demonstrated that scaling this effort to achieve national representativeness as part of the *Thrive by Five Index* is neither financially viable nor operationally feasible. In total, more than 20,000 households were visited across selected low-income wards to identify and assess just 272 eligible non-enrolled children, a success rate of only 1.5%. This extremely low yield underscores the considerable resources required, both in terms of time and cost, to reach a relatively small number of children outside the formal early learning system.

In addition to logistical challenges, there were significant concerns around participant trust and safety. Many caregivers were reluctant to disclose that their children were not enrolled in an ELP, often due to fears that this might affect their eligibility for social grants. Assessors also reported encountering resistance or suspicion during visits, especially in areas where unfamiliar visitors were viewed with caution.

Fieldwork safety was a major concern. Some areas were considered too dangerous to enter without police escort. Enumerators received specialised training to work under these conditions, including how to manage difficult home environments sensitively and how to refer caregivers for support if needed. Fieldwork teams were required to carry lightweight tables, due to a lack of suitable furniture in many homes, and worked in pairs for security reasons and to help manage complex household circumstances. In particular, the pilot study highlighted the importance of having one assessor work with the child, at the same time the other engaged the PCG and tried to minimise disruptions and interference (exacerbated by overcrowding and limited privacy). Assessments often could not proceed as planned, and 30% of child assessments were interrupted at least once. While it was recommended that assessors conduct two visits to build rapport with the child and reduce the risk of stranger anxiety, this was frequently impractical as there was no guarantee the child or caregiver would be present during a follow-up visit. The emotional toll on fieldworkers was significant, with some requiring post-fieldwork counselling due to the distressing conditions encountered.

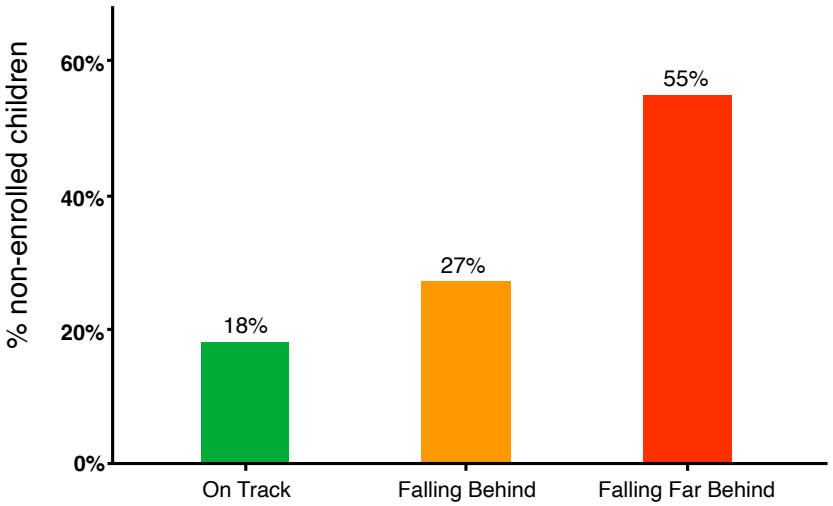
Furthermore, the household listing exercise (door-to-door visits to identify eligible children) revealed that early learning participation is highly fluid. Many families move in and out of ELPs depending on short-term fluctuations in income or the availability of local support. This challenges binary notions of enrolment status and reinforces the importance of understanding non-enrolment as part of a continuum, rather than a static category.

Taken together, this illustrates the great challenges in reaching non-enrolled children. For future work to assess this group of children, a modified approach would be more feasible. This might involve making child assessment part of a regular household survey, such as the GHS, and exploring qualitative studies to deepen our understanding of demand- and supply-side factors contributing to non-enrollment.

10.3. Learning Outcomes – Non-Enrolled Children

Only 18% of children in the non-enrolled sample are On Track for Early Learning - less than one in five of the non-enrolled children could do the basic tasks expected of a child their age (50–59 months).
A staggering 55% are Falling Far Behind.

Figure 27: ELOM 4&5 Total - % non-enrolled On Track, Falling Behind & Falling Far Behind

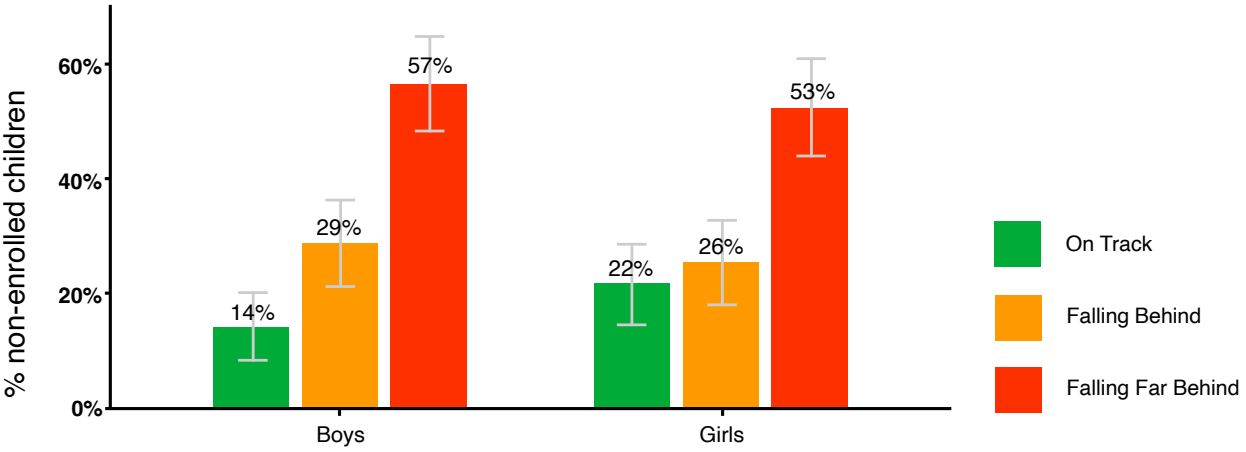


55%
of non-enrolled children are Falling Far Behind. Only 18% are On Track.

Source: Unweighted *Thrive by Five Index 2024* sub-study of non-enrolled children

The gender breakdown in the non-enrolled sample is essentially balanced, with 51% boys and 49% girls. Learning outcomes are worse for boys, with only 14% of boys being On Track compared to 22% of girls (Figure 28).

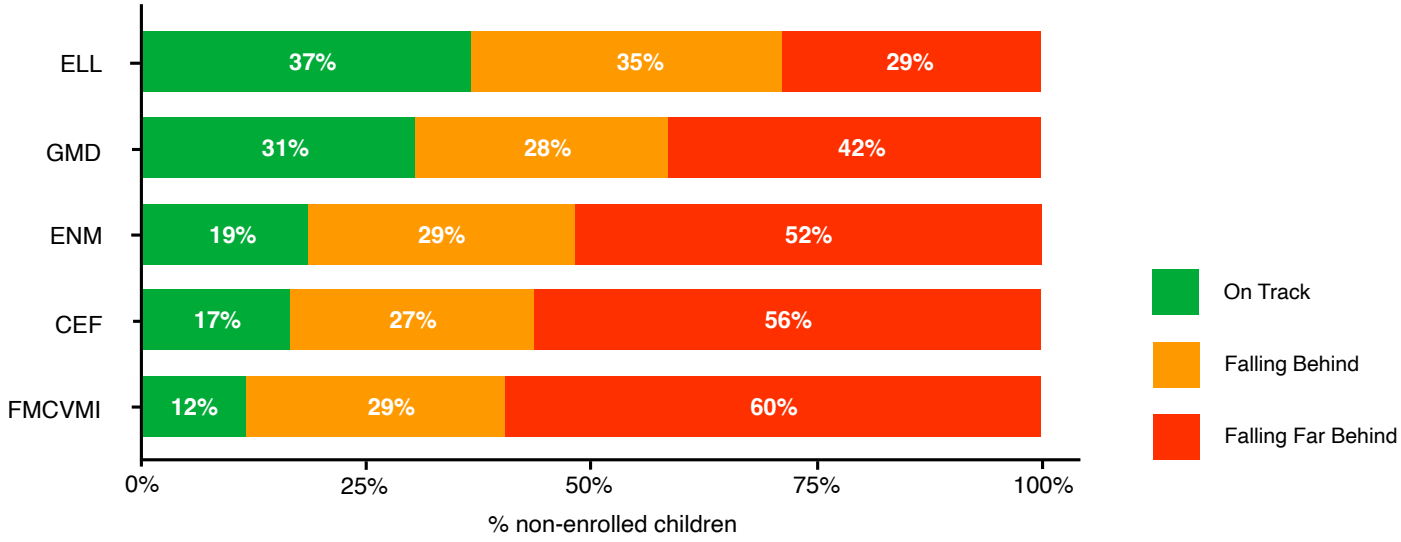
Figure 28: ELOM 4&5 Total - % non-enrolled On Track, Falling Behind & Falling Far Behind, by gender



Source: Unweighted *Thrive by Five Index 2024* sub-study of non-enrolled children
Note: Percentages may not total 100% due to rounding.

Figure 29 shows how children in the non-enrolled sample perform in each of the early learning domains. Across FMC-VMI, ENM and CEF, the vast majority (over 80%) of non-enrolled children are failing to meet age-appropriate milestones.

Figure 29: ELOM 4&5 domains - % non-enrolled On Track, Falling Behind & Falling Far Behind



Source: Unweighted *Thrive by Five Index 2024* sub-study of non-enrolled children
Note: Percentages may not total 100% due to rounding.

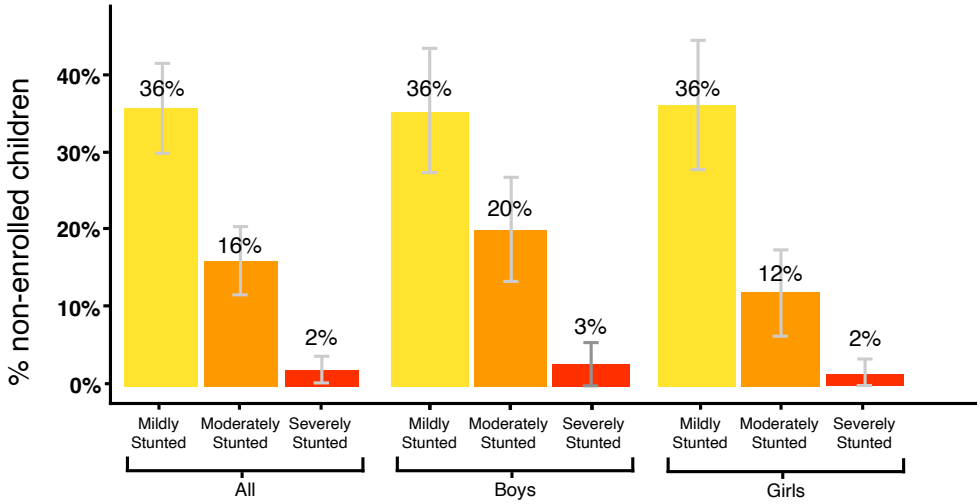
These findings offer a stark and urgent reminder of the consequences of child poverty and unequal access to early learning opportunities. In a country where almost one third of 4-year-old children are not enrolled in an early learning programme, these results highlight both the depth of need and the cost of inaction.

10.4. Growth Outcomes - Non-Enrolled Children

Nearly one in five children in the non-enrolled sample (18%) were found to be moderately or severely stunted. Comparing between genders, we see a greater proportion of boys moderately and severely stunted compared to girls, but the small sample size means we cannot draw firm conclusions or generalise these findings with confidence.

An additional **36%** of non-enrolled children were found to be mildly stunted. Although this falls outside the clinical threshold for stunting, it nevertheless reflects suboptimal growth that may signal early nutritional deficiencies or persistent stress in the child's environment. As discussed earlier in the report, emerging global evidence increasingly recognises mild stunting as a developmental risk, associated with delayed cognitive development and reduced school readiness.

Figure 30: Proportion of non-enrolled mildly, moderately and severely stunted children



Source: Unweighted *Thrive by Five Index 2024* sub-study of non-enrolled children
Note: Sample of 270 children

Including this mild stunting figure deepens our understanding of the continuum of growth-related challenges faced by non-enrolled children. Stunting has lasting implications, affecting not only physical health but also cognitive development and long-term educational and economic outcomes.

As noted earlier, ELPs are more than learning spaces - they are critical access points for health and nutrition, providing daily meals and enabling visits from health professionals for interventions such as immunisation and deworming. Children who are not enrolled risk missing out on these vital services, placing them at greater developmental risk and compounding disadvantage from the earliest years of life.

10.5. Caregiver and Household Profile – Non-Enrolled Children

This section summarises the main characteristics of the 262 households with non-enrolled children, based on data collected through in-person interviews with 272 primary caregivers (PCGs).

For 73% of the non-enrolled children, the biological mother is the primary caregiver, a further 13% are cared for by their grandmothers, 6% by their biological father, 4% by an aunt and the remaining 4% by another significant adult.

Household poverty: The households with non-enrolled children demonstrated *extremely high levels of vulnerability.* Just over 73% of PCGs have not completed high school (Grade 12) and a similar percentage are unemployed. These are not necessarily the same PCGs, although there is substantial overlap between not having completed high school and being unemployed. Over 65% of the non-enrolled children live in informal shacks or backyard dwellings, and 70% do not have access to tap water in the home. Most of these children are not accessing ELPs due to financial constraints, with 77% of PCGs citing an inability to pay fees as the primary reason for non-enrolment[12].

A total of 76% of PCGs reported receiving the Child Support Grant (CSG) on behalf of the child in their care. While the CSG provides vital financial assistance to low-income households, the grant amount remains insufficient to cover even a young child's basic nutritional needs [88]. As of 2024, the monthly CSG stood at R530, well below the national food poverty line of R796 [5].

Given that a birth certificate is an essential enabling document for accessing various services and social grants in South Africa, it is concerning that 15% of the PCGs reported that their child did not have a birth certificate.

Food insecurity: Food insecurity was evident in this sample, with 24% reporting adult household members going hungry in the last 3 months and 7% reporting that a child (younger than 18) skipped meals in the last 3 months. This finding reflects what has been documented in qualitative studies, which suggest that adults often skip meals to shield children from the effects of poverty [89] [90].

Pregnancy and early health: The PCG interview included questions relating to pregnancy, birth and information from the child's Road to Health Booklet (RTHB). Questions about smoking or drinking during pregnancy were only asked if the respondent was the biological mother (N=198). Surprisingly, 19% reported drinking alcohol and 17% reported smoking while pregnant.

To ensure accuracy of the data, questions on gestational age and immunisation status were only asked if the PCG had the child's RTHB with them. 189 (70%) PCGs were able to produce a copy of the RTHB during the visit. The average gestational age was 38 weeks, compared to full term of 40 weeks, with 16% of the sample reporting premature births (before 37 completed weeks), and 4% reporting very premature births (before 33 weeks). This is a major concern because being born prematurely is associated with higher risk of infant mortality and developmental delays [84]. For 79% of the PCGs with the RTHB, the immunisation schedule was complete, with the most recent immunisation being the Hexavalent 4, a six-in-one combination vaccine usually given at 18 months of age.

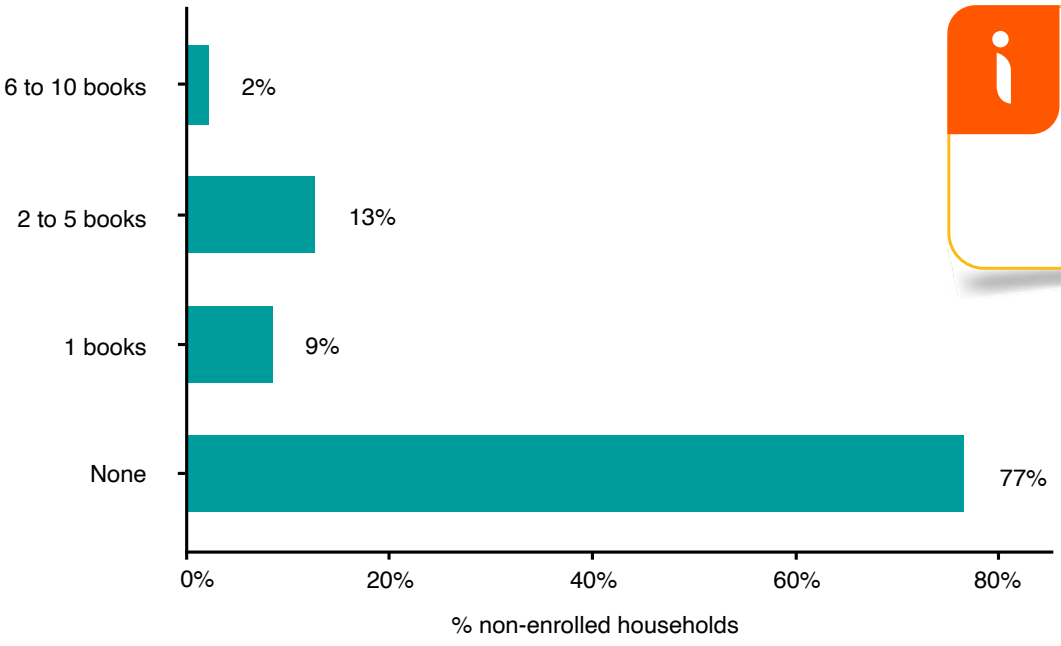
[12] This data is only available for 193 of the 272 children

Child sleep patterns: Sleep plays a vital role in young children's health, learning, and emotional well-being, which is why South Africa's 24-Hour Movement Guidelines recommend that children aged 3–5 years get 10–13 hours of quality sleep per day, including naps [87]. The two sleep-related questions included in the caregiver survey offer a rough indication of bedtime routines and overall sleep duration. Only 41% of caregivers reported that their child goes to bed at a similar time most nights (excluding weekends), suggesting a lack of consistent bedtime routines. In addition, just 34% of PCGs indicated that their child never goes to bed after 9 pm during a normal weeknight.

Home learning environment: The home learning environment plays a vital role in supporting a child's early development, arguably more so for children who are not enrolled in early learning programmes. To assess the quality of this environment, the survey included questions on both access to learning resources (children's books) and the frequency of specific caregiver-child interactions that are known to support cognitive and language development.

Figure 31 illustrates the number of children's books available in the home, including those borrowed from a library. Alarmingly, 77% of primary caregivers reported having no children's books at all in the household.

Figure 31: Number of children's books in the home

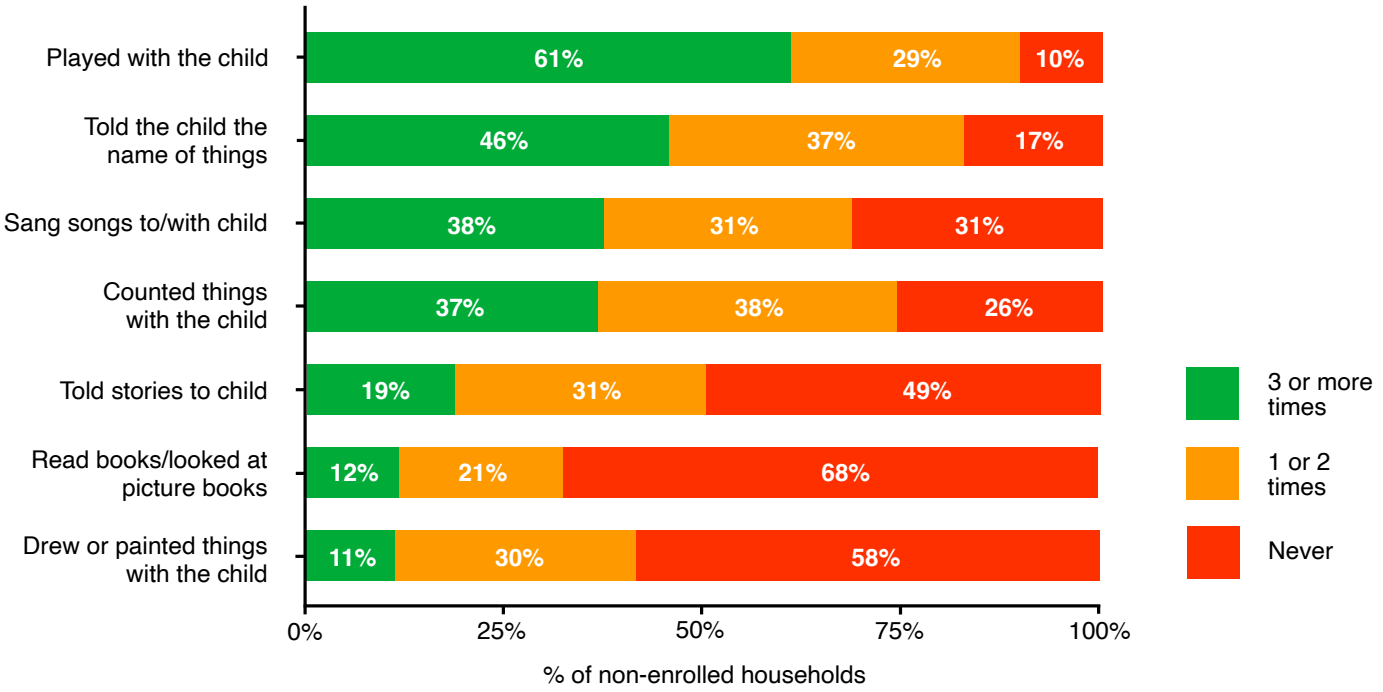


77%
of caregivers reported having no children's books in the home.

Source: Unweighted *Thrive by Five Index 2024* sub-study of non-enrolled children
Note: Percentages may not total 100% due to rounding.

Figure 32 presents the range of home learning activities reported by primary caregivers (N=272). Among these, playing with the child was the only activity that more than half of caregivers said they had done three or more times in the past week. In contrast, reading stories or looking at picture books, as well as drawing or painting, were the least frequently reported activities, partly reflecting limited access to appropriate resources. These findings echo patterns seen in a Cape Town-based study of non-enrolled children [91], where activities like singing songs, playing, and naming objects were more common, while activities such as reading books, storytelling, counting, and drawing occurred far less frequently.

Figure 32: Adult-child engagement in home learning activities over the past week



Source: Unweighted *Thrive by Five Index 2024* sub-study of non-enrolled children
Note: Percentages may not total 100% due to rounding.

The high rates of "never" responses among PCGs of non-enrolled children point to a critical gap in early stimulation and underscore the importance of targeted support for families outside the formal early learning system.

PCG (mis)perceptions of children's development:

- **Early Learning:** When primary caregivers (PCGs) were asked about their child's development, the majority (56%) believed their child was developing at the same pace as their peers, and 35% felt their child was progressing faster than others of the same age. Only 9% reported that their child was falling behind. These perceptions are in sharp contrast to the ELOM 4&5 results, which show that 82% of the non-enrolled sample are Falling Behind or Far Behind the expected developmental standard.

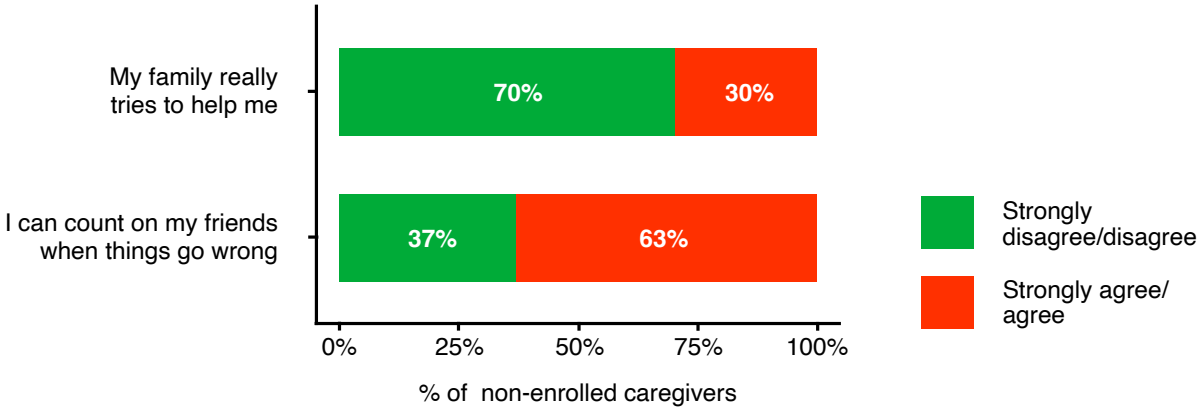
- **Social-Emotional Functioning:** A similar pattern emerges for social-emotional development. For non-enrolled children, the Social-Emotional Functioning (SEF) Rating Scale questionnaire was administered to PCGs. Based on their responses, 73% of children met the standard for Emotional Readiness and 76% met the standard for Social Relations. These high ratings do not align with what would be expected given the broader developmental profile of this group.

  The discrepancy between observed developmental outcomes and caregiver reports may have several explanations. PCGs may be reluctant to acknowledge developmental delays or may have limited awareness of age-appropriate milestones. Further qualitative research would help to better understand these perceptions and to guide the design of targeted support interventions.

- **PCG wellness:** PCGs' capacity to provide responsive and nurturing care is often constrained by structural stressors such as poverty, gender inequality, and unsafe communities [78]. These conditions negatively impact caregivers' mental health and emotional well-being, which are foundational to high-quality caregiving. Given that this sample falls within the bottom quintile communities, caregivers and children are likely at greater risk of exposure to these stressors, as illustrated by the particularly high levels of unemployment reported earlier. Research shows that high levels of social connectedness (or social support) can buffer some of the negative effects of stressors on caregivers' mental health [92]. Conversely, greater difficulty with daily tasks is closely linked to poorer mental health. As with the enrolled sample, two aspects of PCG social functioning were included in the PCG interview - social connectedness and daily functioning.

  Social connectedness is presented in Figure 33. Encouragingly, 70% of PCGs reported receiving support from their family. In contrast, only 37% indicated they could count on their friends, a pattern consistent with existing literature on social support [93]. This imbalance may also reflect limitations in access to community resources, as well as the impact of unsafe or fragmented neighbourhoods that impede the development of supportive friendships.

Figure 33: PCG reported social connectedness



Source: Unweighted *Thrive by Five Index 2024* sub-study of non-enrolled children

Of concern, 47% of PCGs reported that taking care of things at home (over the past 4 weeks) was either very - or extremely - difficult. This likely reflects the significant socio-economic pressures facing this sample. Research consistently shows that caregivers in low-income contexts experience elevated psychological distress due to the pressures of providing for children in environments marked by material hardship, food insecurity, and limited access to services [94].

10.6 Conclusion: Key Takeaways from the Non-Enrolled Sub-Study

The findings from this sub-study offer a sobering glimpse into the lives of children not attending ELPs, and the multiple layers of disadvantage they face. While the sample is not nationally representative, the depth of vulnerability - across developmental, nutritional, household, and caregiver dimensions - signals a crisis of early exclusion.

These children are not only missing structured learning opportunities, but are also not benefitting from the health, nutrition, and psychosocial support that ELPs often provide. In a context where nearly a third of 4-year-olds are not enrolled in an ELP, this has profound implications for both individual life trajectories and broader social equity. Systemic action is urgently needed to identify, reach, and support these children and their families.

Section 4

From Insights to Action

This final, concluding section distils the national findings of the *Thrive by Five Index 2024* into a set of priority actions aimed at improving the developmental trajectory of young children in South Africa.

Here is what it covers:

It identifies six areas where targeted investment and coordinated action are most likely to yield lasting impact:

1. Finance the sector for access and quality
2. Strengthen the early learning workforce and classroom practices
3. Integrate early learning and child health
4. Support positive parenting
5. Strengthen foundation phase teaching and learning
6. Advance the collection of key data and research

These priorities reflect the areas of greatest need and opportunity for building a more inclusive, equitable, and effective early learning system.

11 Conclusion: From Insights to Action

11.1. Why The Index Data Matters

The *Thrive by Five Index 2024* provides a snapshot of the developmental status of South Africa's 4-year-old children. The evidence is clear: despite notable progress in policy and practice, many children still do not receive the foundational support necessary for optimal growth and development.

With only 42% of enrolled children developmentally On Track for early learning, and substantially lower proportions among non-enrolled children, we have much work to do.

The data underscores the profound impacts of socio-economic disparities. Children from poorer households remain significantly disadvantaged, emphasising the need for targeted interventions - both within homes and Early Learning Programmes (ELPs) - to close these gaps. Similarly, persistent gender disparities, particularly affecting boys, highlight the need for gender-sensitive approaches.

Although the data reflects a single point in time, what we see at age four shows the influence of circumstances and experiences, starting as early as conception. Immediate action is needed to ensure future generations of 4-year-olds are better prepared with the foundational skills they need to thrive. At the same time, urgent attention must be given to supporting the 1.2 million 4-year-olds currently moving into formal schooling. Grade R must be recognised and resourced as a crucial bridging year, aimed at identifying and closing the developmental gaps faced by more than half of incoming children.

11.2. What Needs to Change

The following recommendations provide practical, evidence-informed ways to enhance preschool outcomes in South Africa. While they focus on preschool and foundation phase interventions, this does not diminish the vital importance of earlier development, especially the first 1,000 days of a child's life (from conception to age two), which lay the foundation for long-term wellbeing and educational success.

1. Finance the sector for access and quality

a) **Improve the flow of public funds to ELPs:** Predictable funding supports stable income streams, particularly for ELPs serving vulnerable communities. It is crucial to strengthen the subsidy disbursement systems to ensure the R10 billion National Treasury allocation to ECD (2025-2027 [95]), is spent within the stipulated period and invested effectively, where it is needed most.

b) **Increase funding to align with the cost of quality:** Subsidy values must progressively reflect the true costs of delivering quality early learning programmes – including fair pay, decent working conditions and continuous professional development for practitioners. Without quality, expanding enrolment alone will fall short of achieving the substantial gains in children's developmental outcomes that are required.

c) **Resource the non-profit sector:** NGOs play a vital role in training and mentoring principals and practitioners, supporting curriculum delivery and enabling access to quality learning materials. To strengthen this crucial support tier, greater and more sustained funding is needed.

d) **Remove financial barriers to enrolment for the most vulnerable children:** Nearly one-third of 4-year-old children do not attend an ELP, mainly due to an inability to pay fees. It is these children - often the most vulnerable – who could benefit the most. Financial barriers must be addressed urgently to enable all children to access early learning and unlock the wider benefits of ELP attendance. Bridging this access gap requires targeted strategies, supported by an understanding of both the supply- and demand-side barriers to enrolment.

2. Strengthen the early learning workforce and classroom practices

a) **Review training to strengthen responsive teaching:** Teaching Strategies - the daily activities practitioners use to extend learning, build emotional skills, and foster independence - are strongly linked to higher ELOM 4&5 scores. Yet no positive link emerges between practitioners' qualification levels and the quality of these strategies. This signals a need to review current training and qualifications so they better equip practitioners with the practical, evidence-based skills required for high-quality, responsive teaching.

b) **Build practitioner capacity to support children's social and emotional development:** Children's social and emotional functioning plays a significant role in shaping their learning outcomes. Simple, everyday practices that are integrated into ELP routines can help children feel safe, seen, and supported: daily check-ins, activities that allow children to understand and name feelings, warm responses to emotional cues and needs, as well as reinforcing positive behaviours through praise and encouragement. Principals and practitioners need targeted training and support to integrate these approaches effectively and consistently.

c) **Create environments that build focus and self-regulation:** Task Focus is one of the strongest predictors of ELOM 4&5 outcomes, making it essential to design learning spaces and processes that help children concentrate, persevere, and explore with curiosity. Effective strategies include: differentiated learning areas stocked with engaging, age-appropriate materials; rotating between individual, small-group, and large-group activities to sustain interest; breaking tasks into manageable steps and gradually reducing support (scaffolding); and allowing children to make age-appropriate choices within a structured programme.

d) **Equip under-resourced ELPs for focused, engaged learning:** Children in better-resourced ELPs show stronger focus and problem-solving skills - key predictors of good outcomes. Closing this gap means supplying under-resourced programmes with high-quality learning and play materials, alongside practitioner training to use them effectively. This pairing ensures resources translate into richer, more engaging learning experiences for children.

e) **Harness peer networks to drive quality:** Peer-to-peer learning among ELP principals and practitioners - through ECD forums and communities of practice - presents opportunities to strengthen leadership and raise programme quality. These networks provide safe spaces for sharing experience, reflecting on challenges, and solving problems collectively. Investing in and expanding such networks can embed a culture of continuous learning, innovation, and mutual support across the ELP sector.

f) **Back principals as leaders:** Principals set the tone for programme quality - yet fewer than half received any in-service training in 2023–24. Their ability to recruit, develop, and retain skilled staff directly shapes children's learning experiences. We need to invest in principals as both pedagogical leaders and capable managers - strengthening recruitment and retention strategies, building their capacity to drive programme quality and embed play-based learning, and equipping them with the financial and administrative skills to run sustainable ELPs.

3. Integrate early learning and child health

a) **Address the root causes of stunting:** Stunting affects children's physical growth, undermines cognitive development, and has long-term consequences for their educational trajectories. Addressing stunting requires a holistic, multi-sectoral response that reduces food insecurity, improves maternal health and wellbeing, and expands access to healthcare, clean water, and sanitation.

b) **Expand health and nutrition services through ELPs:** We need to build on the fact that 90% of ELPs already provide a daily meal to children and 60% provide platforms for health outreach. Nutritional support, regular growth checks, deworming and micronutrient supplementation can be delivered at scale through DoH-ELP partnerships

4. Support positive parenting

a) **Enhance family involvement:** While ELPs play a critical role in children's early development, learning begins and continues at home. Only 11% of households have more than five children's books, and over a quarter have none. Many caregivers also overestimate their child's developmental progress, suggesting a gap in awareness of age-appropriate milestones. Communication campaigns and community outreach should help families recognise key developmental milestones, understand why they matter, and offer simple, low-cost ways to support children to reach them.

b) **Recognise the role of fathers:** Although father involvement is increasingly recognised as important for young children's development, it remains poorly understood and often overlooked - particularly in low-income settings. Programmes and communication strategies should actively include fathers and other male caregivers, acknowledge their role and encourage their participation in early learning and care.

5. Strengthen foundation phase teaching and learning

Early learning gains can fade if they are not reinforced when children enter formal schooling [96]. Quality teaching and learning from Grade R to Grade 3 are therefore critical both to close early learning gaps and to sustain gains from high-quality ELPs. For the many children who start Grade R already Falling Behind, Grade R must function as a purposeful bridging year to help them catch up. For children who have benefited from strong ELPs, quality teaching in Grade R and beyond is essential to maintain and extend those gains. Strengthening instructional quality across Grades 1–3 ensures that early advantages are not lost and that all children build steadily towards the competencies they need for later learning.

6. Advance collection of key data and research

a) **Make excluded children visible:** The *2024 Index* findings on non-enrolled children underscores the urgent need to deepen our understanding of this highly vulnerable group of children and households. Non-enrolled children are frequently overlooked in research and service provision. If we are committed to leaving no child behind, this group must become a central focus.

b) **Invest in longitudinal studies to track developmental pathways:** Cross-sectional data provides valuable snapshots, but South Africa needs longitudinal research that follows children over time - especially those in under-resourced settings. Tracking the combined effects of early learning, nutrition, health, and caregiver engagement on later academic, economic, health, and social outcomes will identify critical windows for intervention. Such evidence can guide investment towards strategies that deliver the greatest and most lasting impact.

c) **Embed Index outcomes into administrative data systems:** Linking data from the *Index* to the Department of Basic Education's learner tracking system would allow South Africa to assess whether early gains are sustained – and under what conditions. Positioning the *Thrive by Five Index* as the baseline for long-term tracking offers a powerful opportunity to monitor progress, identify risk points, and refine interventions over time.

11.3. Looking Ahead

This study is a stark reminder of how much remains to be done to ensure that every child in South Africa has access to quality early learning. However, it also shines a light on what is working: a cadre of entrepreneurial women establishing and leading ELPs in their communities; a vibrant and committed NGO sector supporting these efforts; greater access to high-quality data to inform decision-making; unprecedented levels of public investment in ECD and exciting public-private partnerships in planning and provisioning. These strengths are a foundation to build on - and a reason for optimism.

Not everyone can drive large-scale transformation, but each of us can act within our sphere of influence. Whether you are a policymaker, business leader, ELP operator, trainer, researcher, funder, parent, caregiver, or advocate – your role matters. These are our children. Their well-being is our shared responsibility.

As you reflect on these recommendations, consider how your work, resources, or relationships can contribute to practical, lasting change.

Let this be our moment of decisive and collective action. We invite you to use the findings, priorities, and tools shared in this report to inform your decisions, shape your programmes, and support meaningful progress for young children across South Africa.

To learn more, share your insights, or explore opportunities for collaboration, please visit thrivebyfive.co.za.

Let this be our moment of decisive and collective action.
We must rewrite the story of early childhood in South Africa.

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13 Appendix: Glossary of Terms and Concepts

This glossary defines key terms, tools, and concepts used in this report, including those related to child development, early learning programme quality, statistical analysis, and contextual factors.

Term or Concept	Explanatory Notes
Bana Pele	Bana Pele – A Sesotho phrase meaning "Children First," capturing the guiding principle of putting the needs and rights of children at the centre of national development. The Bana Pele Blueprint is an implementation guide that supports actors across the early learning ecosystem to align strategies, build shared infrastructure, and collectively deliver on the 2030 Strategy [9].
Beta coefficients (b = unstandardised and β = standardised)	In a regression (a straight-line "best fit" through the data), b (unstandardised beta) is how much the outcome changes when the predictor changes by one unit (for example, "an extra month of age adds 0.5 points to the score"). β (standardised beta) measures the rate of change, too, but after converting both variables to standard-deviation units. This rescaling lets us see which predictors matter more when they're on different scales (e.g., years vs. kilograms).
Confidence Interval	The Confidence Interval is a range that shows where the true value (like an average) is likely to fall. The 95% Confidence Interval means that if we repeated the study many times, 95% of those ranges would include the true value. We can't be certain this one does — but the method is designed to be right 95% of the time.
Early Learning Outcomes Measure / (ELOM)	A suite of South African assessment tools developed to measure young children's early development and the quality of early learning environments. Tools in the suite include the ELOM 4&5 Years Assessment Tool, ELOM 4&5 Targeting Tool, ELOM-R Mathematics Assessment Tool, ELOM-R Language Assessment Tool, and others. The tools are designed for reliable and fair use across all official languages and socio-economic groups.
ELOM 4&5 Years Assessment Tool (ELOM 4&5)	One of the tools in the ELOM suite. This is a South African standardised tool, available in all official languages, that measures performance across five key developmental domains for children aged 50-59 months and 60-69 months. The tool provides a reliable and fair assessment of children regardless of their socio-economic and ethnolinguistic background. It has been validated for content, construct, age, and concurrent validity (with the WPSSI-IV), and shows strong test-retest reliability [11] [12] [13]. Based on standardised scores, children are classified into one of three bands: • **On Track:** The child meets the expected standard for their age. • **Falling Behind:** The child does not meet the standard and is at risk of not catching up without additional support. • **Falling Far Behind:** The child is well below the expected standard and will likely require intensive intervention.

Early Learning Programmes (ELPs)	Programmes attended by young children on a full- or part-time basis that offer structured learning and care. ELPs include preschools, educare centres, crèches and playgroups. To be eligible for inclusion in this study, ELPs must have at least one child aged 50-59 months attending, be operational and open for at least 8 hours per week.
Enumerator	Trained individual who administers standardised assessments or surveys as part of data collection. In the *2024 Index*, enumerators were responsible for conducting child assessments and gathering programme or caregiver data. All enumerators received specialised training to ensure assessments were reliable and ethically conducted across diverse settings.
Height-for-age difference (HAD score) / Height-for-age Z-score (HAZ score)	HAD score is the difference (in centimetres) between a child's measured height and the median height of a healthy child of the same age. It is treated as a continuous variable in the *Thrive by Five Index* to examine links between physical growth and learning outcomes. HAZ score is a standardised Z-score that adjusts for age and sex, comparing a child's height to World Health Organization reference data. A score below -2 indicates moderate or severe stunting; below -3 indicates severe stunting.
Learning Programme Quality Assessment Tool v2 (LPQA v2)	A classroom observation tool that measures the quality of a group learning programme for children aged 3–5 years. It rates programmes as Good, Basic or Inadequate in five domains: 1. Materials & Equipment 2. Planning & Assessment 3. The Learning Programme 4. Teaching Strategies 5. Relationships & Interactions
Primary caregiver	In this study, a primary caregiver (PCG) is the person who takes care of the child most of the time, takes responsibility for the child, and knows the child well enough to answer questions about their development and home environment. However, we recognise that in SA, the caregiving landscape is both dynamic and complex and interviewing a single caregiver often fails to capture the full range of influences on a child's development.

p-value	A p-value tells us how surprising our data would be if there were really no effect. A small p-value (e.g., below .05) means the data would be unusual if there were no effect, so we lean toward thinking that some effect is present. A large p-value suggests the results are quite typical of what we'd expect if there were no effect, which supports the idea that the observed pattern may simply be due to chance.
Q1 Low & Q1 High, Q2, Q3, Q4, Q5 Low & Q5 High	Children's socio-economic circumstances provide an important lens for understanding disparities in access to opportunities and developmental outcomes. In this analysis, monthly ELP fees were used as the most suitable available proxy. Based on fee levels, the sample was divided into five quintiles (Q1 to Q5), with Q1 (lowest ELP fees) and Q5 (highest ELP fees) further divided into 'Low' and 'High' subgroups to better reflect variation at both ends of the spectrum. This resulted in these seven groupings: Q1 Low, Q1 High, Q2, Q3, Q4, Q5 Low, Q5 High.
Top 20% ELP Fees & Bottom 80% ELP Fees **Higher Fee ELPs vs Lower Fee ELPs**	In some instances, the data are grouped into two broader categories by ELP fee level. The 'Top 20% ELP Fees' combines Q5 Low and Q5 High, and the 'Bottom 80%' combines Q1 through Q4. These two groups are referred to interchangeably in the report as - Top 20% ELP Fees and Bottom 80% ELP Fees; or Higher Fee ELPS and Lower Fee ELPs.
Social-Emotional Functioning Rating Scale (SEF Rating Scale)	A tool used to assess children's emotional and social development based on observable behaviours. In the *Thrive by Five Index*, ELP practitioners or caregivers rate the child's. 1. Age-appropriate social skills - such as cooperating independently, participating effectively in group activities, resolving conflicts without aggression, and comfortably seeking support, assistance, or information from familiar adults. 2. Age-appropriate emotional skills - such as effectively communicating with adults, appropriately expressing needs and emotions, demonstrating independence, adapting to changes in routine at home or school, showing confidence in new situations, and initiating activities. Children's scores on each measure are categorised into two groups - • Meet the Standard or • Don't Meet the Standard.

Stratified multistage sampling	A sampling method used in large-scale surveys where the population of interest (for instance, children aged 50-59 months attending ELPs in South Africa) is first divided into subgroups (called strata) based on selected characteristics, for example, socio-economic status. A random sample is then drawn within each stratum using two or more stages - In the case of the *2024 Index,* wards were selected first, then ELPs, and then children.
Structural Equation Modelling (SEM)	SEM is a statistical approach that helps us to understand how different factors work together to influence children's development. SEM helps us see both direct and indirect effects, for example, whether poverty affects learning on its own, and/or through its impact on other areas like physical growth or learning programme quality. This kind of analysis gives us a clearer picture of the complex pathways that shape child outcomes.
Task Orientation Score	After each child completed the ELOM 4&5 assessment, the assessor provided a subjective rating on how the child approached the tasks using four simple questions. These four observations were strongly related to one another. Because of this, they were combined into a single Task Orientation Score
Ward	Wards are defined geographic areas within municipalities and are often used for planning, service delivery, and electoral purposes. In research or programme implementation, wards can serve as a useful unit for sampling or disaggregating data by location. In South Africa, there are almost 4,500 wards.

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