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Age of school entry and learning outcomes in Grades 1-4

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OPTIMA

Policy brief: Age of school entry and learning outcomes in Grades 1-4

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This Policy Brief reviews South Africa's school entry age patterns, assessing the extent to which schools comply with the national admission policy and outlining the practices that determine when children begin Grade 1. It also analyses how these starting ages are linked to learner outcomes and grade repetition in Grades 1 to 4.

SUMMARY

In South Africa, children can start Grade 1 when they are between 5½ and 7 years old, an unusual 18-month school-entry age range. This policy brief examines patterns of school entry ages across South Africa, drawing on administrative data from the Data Driven Districts (DDD) project across six provinces (EC, GP, KZN, LP, MP and NW), which consolidates information captured in SA-SAMS. It explores whether learners enter school at the ages permitted by legislation, how schools apply the two dominant school-entry age practices (Mid-year and Calendar-year entry), and how these practices relate to repetition and learning outcomes in the Foundation Phase (Grades 1–3).

International evidence consistently shows that a child's relative age within a school cohort affects their outcomes. Within a grade, older learners tend to perform better academically and are less likely to repeat. This phenomenon is known as the relative age effect. This brief finds similar patterns in South Africa. Learners who start school at a younger age have higher repetition rates and lower marks in the Foundation Phase. These effects also vary by gender and socioeconomic status, with stronger relative age effects observed among boys and learners in poorer schools. The brief further examines how these effects evolve from Grade 1 to Grade 4, as initial age-related advantages may diminish as learners progress through the system.

A modest policy response is recommended. The current school-entry age policy is already flexible, and schools generally comply. However, the number of underage learners entering Grade 1 can still be reduced. With the recent move to make Grade R compulsory, parents, especially those with children born in the first half of the year, should receive clearer guidance on the options regarding school entry age.

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1 INTRODUCTION

School entry marks a pivotal transition in a child's life. While the state regulates the official school-entry age, parents can still choose to enrol their child a year early or delay entry by a year. Because schools admit Grade 1 learners only once a year, a child's month of birth determines whether they are relatively older or younger within their cohort.

Because age influences school readiness, it also shapes early learning experiences and outcomes. Older children are generally more mature and better equipped to meet the demands of early learning, while younger learners are relatively more likely to struggle and face a higher risk of grade repetition. If these early experiences affect a child's motivation or how they view their own academic ability, initial disadvantages could persist into later grades.

2 CONTEXT

2.1 What outcomes are impacted by school-entry age?

There is a host of international evidence that the relative age of a child within their cohort matters. Older children tend to outperform younger children on a range of cognitive and non-cognitive skills. This is sometimes referred to as the "Relative Age Effect".

Specifically, at school, older children in a cohort have lower levels of grade repetition,[1–3] higher school marks[4] and better results on national and international standardised assessments.[5–7] They are also less likely to be identified as having special needs.[6]

In some countries, learners who are older at the start of their schooling career achieve higher levels of schooling[4,8] and were more likely to attend University[5]. This gap can persist in the labour market.[8,9] However, such a gap in wages and employment is not found everywhere,[10] and some findings on earnings are ambiguous due to the trade-off between a later school start and more work experience.[4]

Non-cognitive skills were also impacted during schooling: older learners were less likely to be bullied,[11,12] and are more likely to be in high school leadership positions.[13]

Relative age effects are most pronounced in the early grades, when a one-year age gap represents a large share of a child's life, but these initial effects tend to fade as children grow older. A second consideration is peer effects: here, younger learners may benefit from having older classmates to learn from and model, and they may also experience a more ordered classroom environment with fewer disruptions from older children.[6,14,15]

2.2 At what age do South African learners start school?

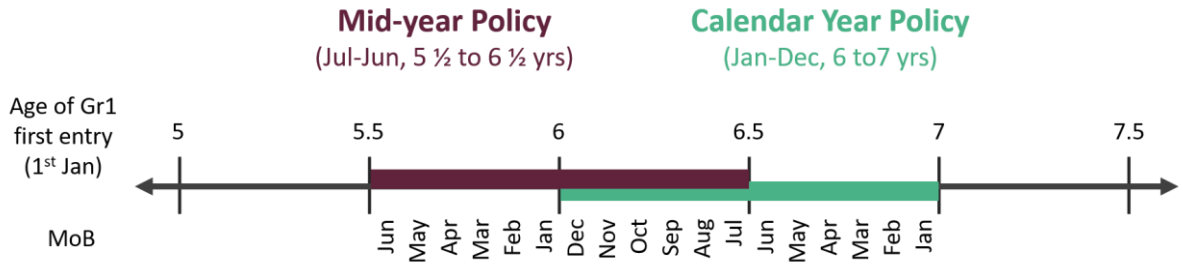
Two sections of the South African Schools Act (No. 84 of 1996) govern the age of school entry. The first section specifies the minimum age of admission, and the second outlines the compulsory school age. In combination, this means that on the 1st of January of the

year that a child starts Grade 1, a learner should be just older than 5½ years to exactly 7 years of age.

Learners may start Grade 1 at any time during the legislated 18-month period. The rate of compliance with legislation across the six provinces is fairly high. In 2018, only 2.6% learners were underage and 3.7% overaged the first time they entered Grade 1, and by 2023, underaged entry had fallen to 1.4%, while overaged entry was still at 3.0%.

However, in practice, most schools admit learners within a 12-month age range (see Figure 1). Schools that typically admit learners in the youngest possible age range, between ages 5½ and 6½, are said to follow a Mid-year policy. In contrast, schools that generally admit learners in the oldest possible age range, between 6 and 7, are referred to as Calendar Year schools.

Figure 1: Two default enacted school-entry age policies

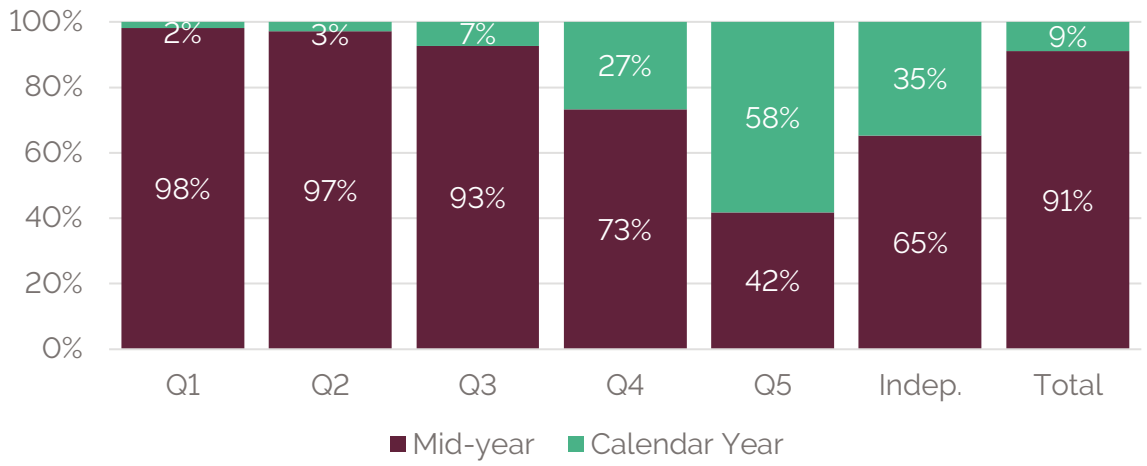


2.3 Which schools follow the Mid-year or the Calendar year policy?

The Mid-year policy is the dominant approach among schools in the six provinces included in the study, with about 90% of schools admitting most learners between the ages of 5½ and 6½. There are sizable differences in these school-entry age norms by socioeconomic status. A breakdown by school Quintiles can be seen in Figure 2. Almost all schools in Quintiles 1 and 2 and most in Quintile 3 follow a Mid-year policy, compared to only about 40% of Quintile 5 schools.

This means that in poorer schools, learners usually enter at the youngest permissible age, potentially due to childcare considerations and the availability of school meals. At wealthier schools, there is more variance around which school-entry age range is the norm.

Figure 2: Percentage of schools adhering to each policy type, by school Quintile in 2018



Source: DDD learner panel, 2017 – 2023 for 6 provinces: EC, GT, KZN, LP, MP and NW. Schools were assigned to each policy (Mid-year or Calendar year) based on the proportion of learners in a given year whose ages fell within the relevant 12-month age range in the years 2018 - 2023. The most commonly used policy by that school over time was then assigned to each school. Number of schools = 12 099

3 RELATIVE AGE EFFECT ON GR 1-4 OUTCOME

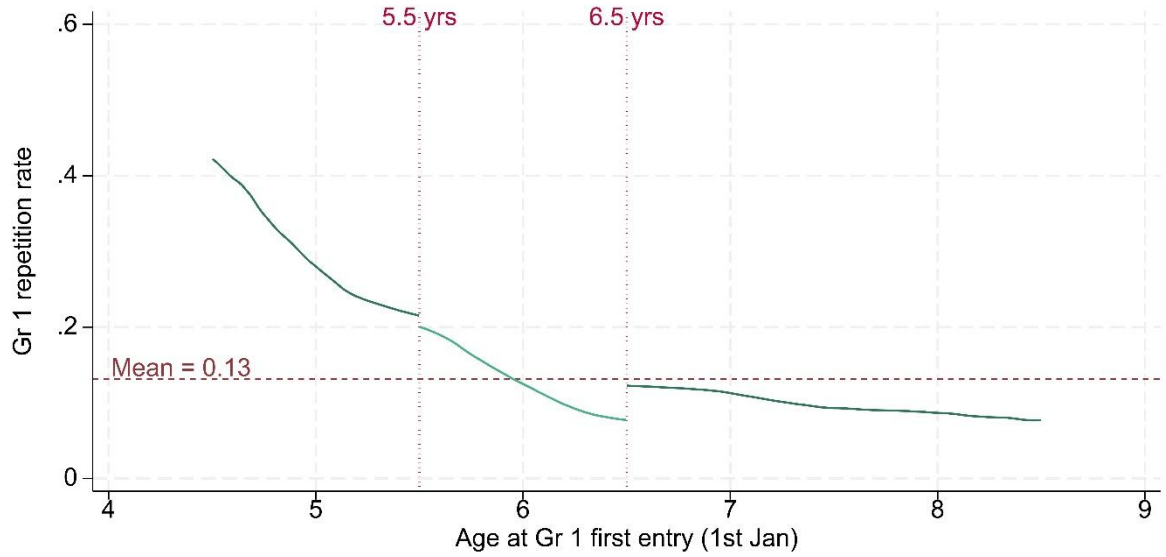
The data for the analysis comes from the Data Driven Districts (DDD) project, which consolidates school administrative data collected through the South African School Administration and Management System (SA-SAMS). It covers six out of nine provinces: Eastern Cape, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, and North West. The main analysis follows about 550,000 learners of the 2018 cohort of Grade 1 first-time entrants through to Grade 4.

For simplicity, this policy brief reports results for Mid-year schools only. Similar patterns are observed in Calendar Year schools; however, because these schools admit children who are approximately six months older, the results are not directly comparable. As Calendar Year schools make up only about 10% of the sample, the analysis focuses on the majority of schools that follow the Mid-year policy.

3.1 Does the age of school entry affect Grade 1 schooling outcomes?

Figure 3 shows a strong negative relationship between the school entry age and the likelihood of repeating Grade 1, a pattern that is strongest for underaged learners and those who start school at the correct age (between 5 ½ and 6 ½ years) at Mid-year schools. Specifically, the younger a learner is at school entry, the more likely they are to repeat.

Figure 3: Grade 1 Repetition rates by age of first school entry for the 2018 Gr 1 cohort



Source: The 2018 Grade 1 first entrants' cohort balanced panel for Grades 1 and 4, from the DDD dataset 2017–2023 for 6 provinces: EC, GT, KZN, LP, MP and NW. Mid-year schools only. Sample size is 488 492 learners.

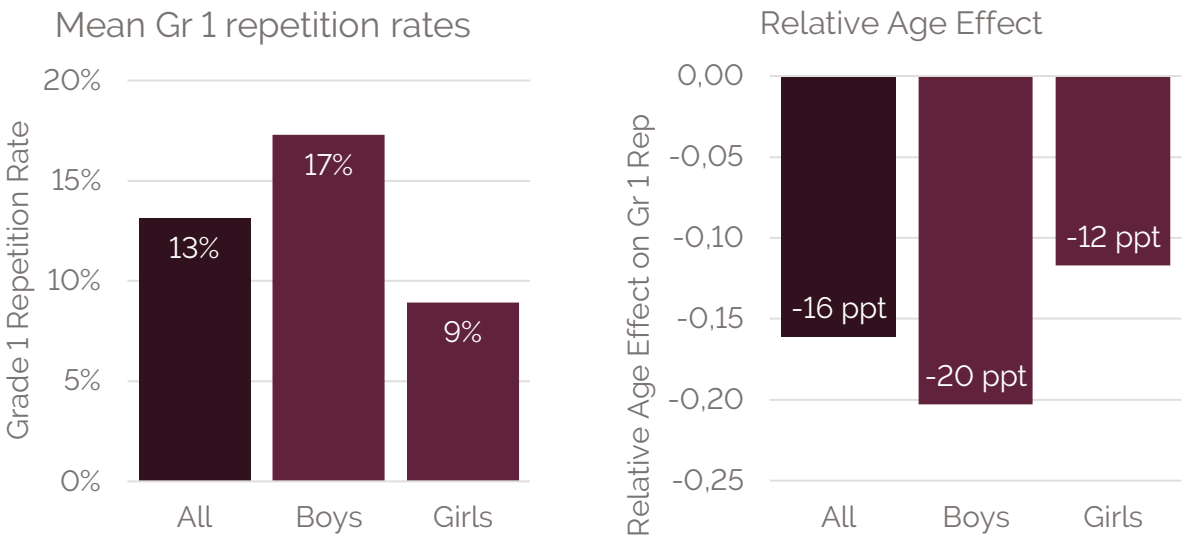
The youngest learners are more than twice as likely to repeat Grade 1 as those one year older at entry

Older learners also achieve higher school marks in Grade 1. The youngest learners score the lower across all subjects: home language (HL), mathematics (MTH), and first additional language (FAL). Being a year older in Grade 1 is associated with scoring about 13 marks more in HL, 13 marks for MTH and 11 marks for FAL.

3.2 Is there a gender difference?

There are significant differences in the overall repetition rates for boys and girls as early as Grade 1. The mean repetition rate is 17% for boys and 9% for girls (see Figure 4).

Figure 4: Gr 1 Repetition rates and relative age effects on Grade 1 repetition rates for the 2018 Gr 1 cohort, by Gender



Source: The 2018 Grade 1 first entrants' cohort balanced panel for Grades 1 and 4, from the DDD dataset 2017–2023 for 6 provinces: EC, GT, KZN, LP, MP and NW. Month of birth is used as an instrumental variable to correct the omitted variable bias introduced by selection into early or delayed entry. Mid-year schools only. Sample size is 488 492 learners.

The relative age effect is also higher for boys than for girls. Figure 4 shows that the difference in Grade 1 repetition is 16 percentage points across all learners, indicating that a learner who is one year older at the start of school is 16 percentage points less likely to repeat the grade. This relative age gap is 20 percentage points for boys and only 12 percentage points for girls.

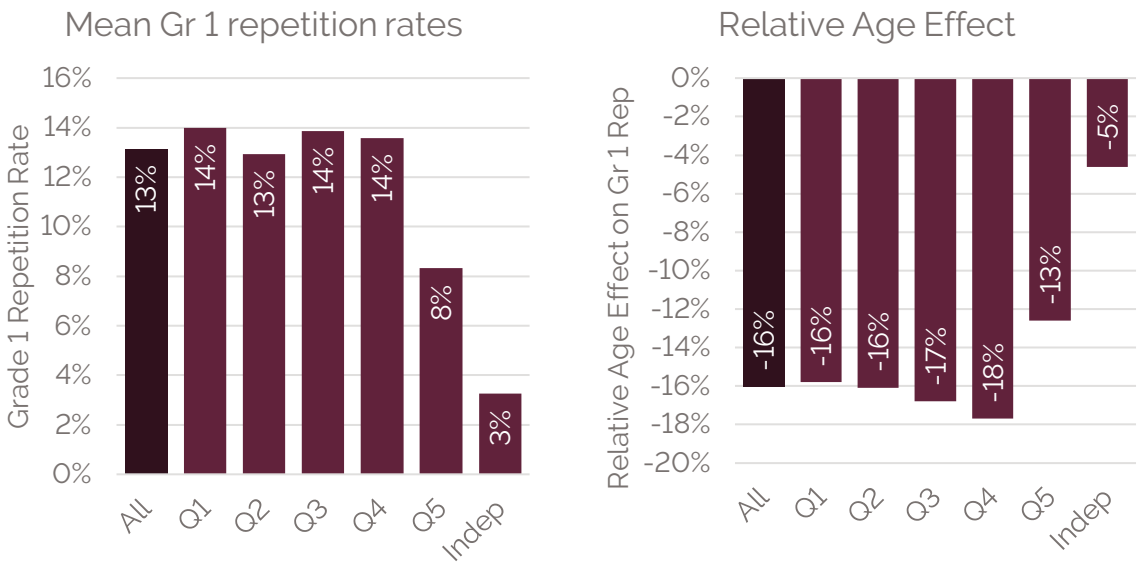
3.3 Do these outcomes differ by school Quintile?

There are also differences in the mean repetition rates and school marks across school Quintiles, as well as differences in the relative age effect across school Quintiles.

Figure 5 shows that Grade 1 repetition rates are highest in Quintile 1–4 schools (13–14%), lower in Quintile 5 schools (8%) and lowest in independent schools (3%). This means that younger learners in poorer schools face the greatest risk of repeating Grade 1.

The effect of being one year older at school entry follows the same pattern. In poorer (Quintile 1–4) schools, being a year older reduces the likelihood of repetition by 16–18 percentage points. The effect is smaller in Quintile 5 schools and smallest in independent schools, where the gap is only about 5 percentage points.

Figure 5: Gr 1 Repetition rates and relative age effects on Grade 1 repetition rates for the 2018 Gr 1 cohort, by school Quintile



Source: The 2018 Grade 1 first entrants' cohort balanced panel for Grades 1 and 4, from the DDD dataset 2017–2023 for 6 provinces: EC, GT, KZN, LP, MP and NW. Month of birth is used as an instrumental variable to correct the omitted variable bias introduced by selection into early or delayed entry. Category for learners at public schools with no Quintile information not shown; 219 learners had no Quintile information. Mid-year schools only. Sample size 487 285

3.4 Does this pattern hold throughout the Foundation Phase?

Repetition patterns across the Foundation Phase (Grades 1–3) mirror those observed in Grade 1. The share of learners who repeat at least once in the Foundation Phase remains high at 25%, with substantial relative age effects: learners who are one year older at entry are 22 percentage points less likely to repeat than their one-year younger peers. As in Grade 1, both overall repetition rates and relative age effects are larger for boys than for girls, and for learners in poorer schools than for those in Quintile 5 or independent schools.

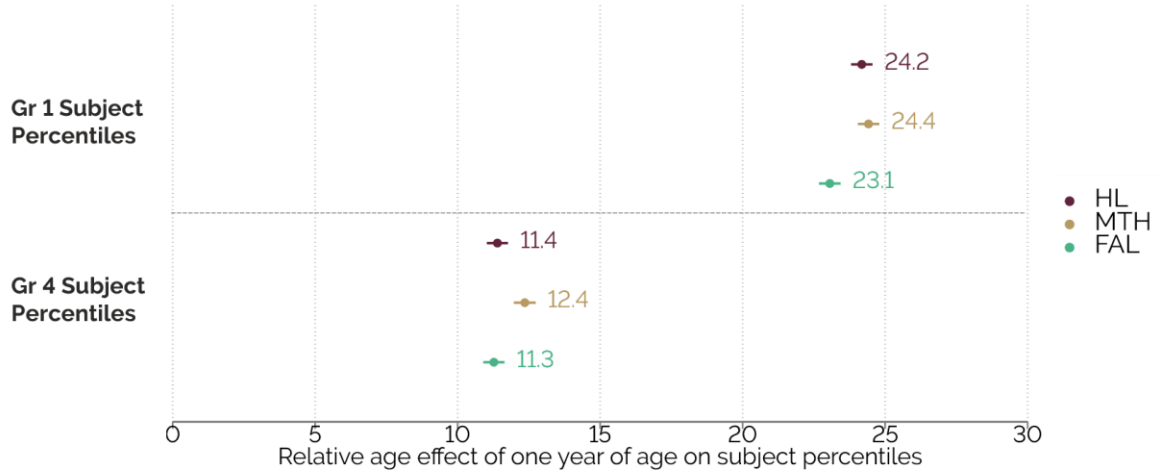
3.5 Is there a fade-out in the relative age effect by Grade 4?

To track how learners' performance relative to their peers' changes over time, we look at a learner's percentile rank within their school in Grade 1 and Grade 4. By the end of Grade 4, the performance gap between learners who started as the oldest and youngest in the cohort has narrowed. Figure 6 shows that the bias-corrected percentile gap was around 23–24 percentiles in Grade 1 across the three subjects. By Grade 4, this difference had fallen to about 11–12 percentiles.

Two mechanisms drive this fade-out. First, by Grade 4, all children are older, making a one-year age difference less consequential. Second, higher repetition among younger learners means more are a full year older than their original cohort and have received an additional year of schooling by the time they reach Grade 4.

Repetition in the Foundation Phase is not age or gender neutral, with younger learners and boys more likely to repeat a grade. This differential repetition contributes to reducing the relative age effect.

Figure 6: Relative age effect on HL, MTH and FAL percentiles in Gr 1 and Gr 4



Source: The 2018 Grade 1 first entrants' cohort balanced panel for Grades 1 and 4, from the DDD dataset 2017–2023 for 6 provinces: EC, GT, KZN, LP, MP and NW. Mid-year schools only. Month of birth is used as an instrumental variable to correct the omitted variable bias introduced by selection into early or delayed entry. Subject percentiles are calculated at the school level, including repeaters that are not part of the 2018 cohort for each grade and year. Used the subject percentile from the first time a learner attempted a grade.

4 RECOMMENDATIONS

South African legislation provides an 18-month window for Grade 1 entry, providing parents and schools with some flexibility. Compliance with admissions age regulations is generally high. However, the incidence of underage entry—although already low at 1.4% in 2023—could be reduced further.

In practice, schools tend to follow either a Mid-year or Calendar Year entry policy. Mid-year entry is much more common, particularly in poorer schools. In an already unequal system with high rates of repetition, this may reinforce existing inequalities: the least school-ready children are more likely to attend schools where earlier entry (between 5½ and 6½ years) is the norm. Mid-year schools, therefore, face the combined challenge of teaching and supporting learners who are both less prepared for school[16] and younger and less mature.

A key response is to improve the quality of instruction in the Foundation Phase, as this would help mitigate relative age gaps in repetition. It is also critical to strengthen both the quality and availability of early learning opportunities, including Grade R, to improve school readiness and reduce pressure on parents to enrol children in Grade 1 at the earliest possible age. In addition, ensuring that parents are well informed about the available school-entry age options, especially for children born in the first half of the year, could encourage more nuanced and child-specific decisions about when to start Grade 1.

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